



THE INDIVIDUAL AND THE ENVIRONMENT

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*SOME ASPECTS OF THE THEORY OF EDUCATION AS
ADJUSTMENT*

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PREFACE

IN this book I have tried to establish the view that in the conception of the adjustment of individual and environment we have a fundamental principle about which a rational theory of education can be developed. It is not new of course. Plato's theory might be described as economic and social, Herbart's as æsthetic, and Rousseau's as natural adjustment. It is a conception which helps to reconcile rival claims arising, for example, when, on the one hand, the individualistic point of view is taken, with its consequent emphasis of the importance of self-realisation ; or when, on the other hand, the environmental point of view is taken and questions such as the value of different kinds of knowledge or social duties and responsibilities become primary and fundamental. It certainly makes it possible to present a coherent theory and provides us with an aim and a criterion attractive on account of their simplicity and their direct applicability to the details of practice.

I found it necessary to keep separate the three orders of reality—nature, the social fabric, and the world of moral values—making up the environment into which the individual is born, and to treat adjustment to them in separate books. That as objective worlds or orders the second and third inter-penetrate is obvious, and many believe in the ultimate spiritual texture of all three. However that may be, within the experience of the individual where adjustment takes place they seem to constitute a single integral universe of reality. If the separation of civilisation and morality offends any reader, I must plead that no other method of treatment seemed possible if I was to make my meaning clear. I agree wholly that experience, the arena of adjustment, is one.

The introduction is long and postpones the development of the theory to perhaps a wearisome degree. But it was necessary to dispose of the questions touched on there first if the three books where the theory is developed in detail were to be free from digressions. It may be said that the second book is not free from them. I refer to the second and third chapters where an attempt is made to extricate the main strands in the social fabric. My answer would be that its texture is not a matter of common knowledge like that of the physical universe. People are only just beginning to talk and think about it. The Newton and Darwin of social science have yet to appear. So that this summary account seemed necessary before any attempt at a solution of the problem of adjustment to the second world could be made.

Since this work was completed two books have appeared which throw much light on many of the problems discussed. One is Dr. W. McDougall's "Group Mind." His treatment of the problem of nationality would have been especially helpful. Another is Dr. T. P. Nunn's "Education: Its Data and First Principles." This useful and arresting book lays stress on individuality and on the need for the best and most original contribution of each individual to the whole of human life. This view of the aim and focus of educational effort only differs, I think, from my own in the selection of the point for greatest emphasis. I have found it in the process of adjustment which individual and environment share and out of which progress and betterment must emerge if they are to emerge at all.

I have had specially in mind students taking a course of professional training for education at the universities or elsewhere; but I hope anyone interested in that fascinating subject will find the book useful.

I wish to thank my wife and Miss E. M. Oswald for valuable assistance in getting it ready for the press.

J.E.A.

Pretoria,
March, 1921.

TABLE OF CONTENTS

INTRODUCTION	- - - - -	1
--------------	-----------	---

1. The conception of adjustment; the three-fold environment.
2. The Individual.
3. The process.
4. Adjustment to the three orders compared.
5. The relation of education to its scientific and philosophic bases.
6. Specially pertinent principles recently established : (a) The dynamic character of experience ; (b) experience rather than consciousness the subject-matter of psychology ; (c) change as a characteristic of experience ; are we to add creation ? (d) psychic fringes.
7. Social psychology.
8. The common idea of the bi-polar relation between teacher and pupil.
9. The same idea at the level of theory.
10. The view that bi-polarity is between the pupil and his worlds.
11. An illustration.
12. The function of the teacher.
13. Note on plan to be followed.

BOOK I. THE WORLD OF NATURE

CHAPTER I. PRELIMINARIES	- - - - -	39
--------------------------	-----------	----

1. The unity of subject and world in experience.
2. Individuality of experience.
3. Change in experience.
4. The data from which formal schooling can start.
5. The aim of adjustment.
6. What adjustment involves.

CHAPTER II. NATURE STUDY	- - - - -	61
--------------------------	-----------	----

1. Nature should be the focus of the primary curriculum.
2. Three principles to be observed in the selection of material for nature-study : Realism, Relative Novelty, and Utility.
3. A fourth : Psychological rather than logical coherence.
4. Further observations on the selection of material.
5. Manual work, arithmetic, and reading, as ancillary to nature study.
6. Geography : its sphere.
7. The first stage : maps and the way to them.
8. The second stage : comparative political geography.
9. The third stage : regional geography.
10. Regional geography as rational geography.
11. The economic aspect.
12. Physiography.

CHAPTER III. SCIENCE	97
1. The science stage of adjustment means the shifting of the dynamic centre of experience from the objective to the subjective pole. 2. Tenure must be freehold. 3. It extends to the second world. 4. It is a double-edged process : objectively an ordered world, subjectively self-realisation. 5. It may secure unity of adjustment. 6. Develop- ment of laboratory work and heuristic methods. 7. Obsession of the instrument and the reaction. 8. Education must take an independent position. 9. Summary of conclusions so far reached. 10. The selection of material : it must be representa- tive of the individuality of nature on its physical and its organic side. 11. An illustrative syllabus. 12 Science for girls : an illustrative syllabus in hygiene. 13. Need for some biology for boys. 14. Mathematics and science. 15. Re- sumption of the consideration of the question whether scientific adjustment means the victory of the ego. 16. The conceptions of cause and law as man's contribution. 17. The individuality of nature as the ideal counterpart of the unity of the individual man.	
BOOK II. THE WORLD OF CIVILISATION	
CHAPTER I. PRELIMINARIES	153
1. The spiritual nature of the social order. 2. Its existence confined to individual experience. 3. Its potentiality for capitalisation ; and its plasticity. 4. Features common to the material and the social orders. 5. Language and the social order.	
CHAPTER II. POLITICAL, NATIONAL AND RELIGIOUS STRANDS IN THE SOCIAL FABRIC	167
1. The political or governmental structure of Society : its necessity and basis. 2. The form and sphere of government. 3. Nationality as a strand : its relation to democracy. 4. Two con- ditions if political freedom is to transcend nation- ality. 5. Some illustrations. 6. Religion as a strand. 7. Its relation (a) to the organisation of Society. 8. (b) To nationality, economic develop- ments, emigration, and the spread of civilisation. 9. (c) To education.	

CHAPTER III. THE ECONOMIC STRAND IN THE FABRIC OF SOCIETY - - - - -	195
1. The manor and agricultural organisation. 2. The merchant guilds and commerce. 3. The craft guilds and industry. 4. Summary. 5. National control : its effect on agriculture. 6. Its effect on industry. 7. Its effect on commerce. 8. Economic policy and the food supply. 9. Economic freedom and individualism. 10. Economic freedom and competition.	
CHAPTER IV. ADJUSTMENT TO THE SECOND WORLD - - - - -	219
1. Adjustment is constant and there are many agencies. 2. The schools must project the social order and link the individual on to it. 3. These two principles and two others as criteria of school history. 4. Illustrations. 5. The sequence and selection of topics. 6. The question whether school pupils can appreciate history on the organic plane. 7. The teaching of civics. 8. Training in social service. 9. Weighing evidence.	
CHAPTER V. VOCATIONAL ADJUSTMENT - - - - -	237
1. The general question of the relation of education to vocation. 2. What vocation comprehends. 3. Value for a vocation attracts pupils and parents. 4. There is a formal side to vocational training. 5. Another statement of the aim. 6. The problem at the primary, or better, preparatory stage. 7. Vocational classification of secondary schools. Common studies. 8. The "humanistic" and "nature" types. 9. Craft schools. 10. Commercial and agricultural schools. 11. Vocational schools for girls.	
CHAPTER VI. LANGUAGE AND LITERATURE AS A VEHICLE OF ADJUSTMENT - - - - -	267
1. Language in its relation to the three worlds. 2. As an instrument of analysis and synthesis. 3. As an aid to æsthetic, moral, and social adjustment. 4. The unity of language and literature. 5. An illustrative course in English Literature. 6. Literature as a means and as an end. 7. A modern language as a vehicle of social adjustment. 8. The classical languages. 9. The treatment of literature.	

BOOK III. THE WORLD OF MORALITY

CHAPTER I. PRELIMINARIES

299

1. Justification of the use of the term "continuum" in respect of the moral order and of the conception of its "creation" by the individual as the aim of moral education.
2. How the continuum is created teleologically *i.e.* by the idea of an end of ethical value.
3. The content of that teleological idea, namely, self-realisation as a stress or tension towards a whole which satisfies the highest elements of the self. Some illustrations.
4. Summary of conclusions so far reached.
5. How the psychical elements of thought, feeling, and will are involved in the adjustment of the individual to the whole, that is, in the creation of the moral continuum.
6. It is the whole self which must be adjusted.

CHAPTER II. THE FACTORS OF ADJUSTMENT

321

1. Individual and social heredity.
2. Instincts are congenital. The home as the vestibule of the school.
3. The school as a moral order mediating the emergence of (a) the cognitive element in the moral continuum.
4. (b) The affective element.
5. (c) The volitional element.
6. Summary.
7. The master as an element in the moral order. His part in adjustment.

CHAPTER III. THE PROCESS OF ADJUSTMENT

347

1. The ethical standards and the school as a moral order.
2. The school and law.
3. The school and happiness.
4. The school and perfection.
5. The process of adjustment: through the healthy physical life of the school.
6. Through the symmetry, order, and beauty, *i.e.* the aesthetic quality which it embodies.
7. Through direct and indirect moral instruction.
8. Through other subjects and activities.
9. Religious instruction.

INDEX

373

INTRODUCTION

§1. The aim of this essay is to develop, in outline, a theory of education. It is no light task; for, apart from its wide scope, there is the inherent drawback that many of those to whom it is in the first place, but by no means exclusively, addressed, are impatient of theory. Teachers are not different in this respect from the practitioners of other arts. There are always some who are ready to hold their work at arm's length and to extricate, so far as this is possible, the conditions which make for success or failure. Usually they are a minority, and they certainly have no monopoly of enthusiasm. Most men would rather be up and doing; and assuredly theory is a thin and arid business compared with the fulness and glow of practice. Yet enthusiasm generally needs the corrective of criticism and teaching is an outstanding example. There is perhaps no art whose practice gains more in effectiveness and aesthetic satisfaction from rational insight into its meaning and purpose. So that an attempt at a comprehensive survey needs no special justification. Moreover the subject has often been approached in piece-meal fashion, and even lightly. There is the futile controversy about the rival claims of literature and science for example, the artificial opposition of disciplinary and content theories, and the often superficial attempts to "apply" psychology and philosophy to practice. Our effort may fail but there seems to be room for it.

The first essential would appear to be a synthetic principle. That seems a better starting-point than a definition. What we want is a conception which will embrace the details, aspects, and stages of education. Is there one? This essay is based on the view that we can find it in adjustment. Whether the view is sound or not will appear in the sequel. We hope to show that within that conception details of theory acquire unity and coherence. If we succeed, or in

proportion as we succeed, we shall have a criterion which can be applied to the problems of organisation and execution which education, complex and vital business that it is, presents from day to day and from hour to hour. And presents, we may add, not only to teachers. We are too apt to leave out of account the fathers and mothers, the man in the street, and the man in a position of public responsibility. They want to know what we are doing and why we are doing it. Indeed, if a principle and a criterion acceptable to them can be found, they will be more ready to leave the details of execution without question to us. The irritability of parents and public seems to be easily aroused just because of the fog of indecision which hangs about the purpose and practice of education. Will the conception of adjustment help to clear it away? Well, we can only try it. The first step is to say what we mean by it.

That will only become quite clear when we have finished our task. Meanwhile, psychology suggests a method of approach. It tells us that a conception is vague and schematic at first, a shadowy thing with blurred outline which gradually becomes clearer and more definite; but that it must be in the mind in this indefinite form before we can begin to attend to it, or better, perhaps, with it. Let us follow psychology, then, and try to get hold of it. Fortunately we usually find ourselves in possession of the schema of any current concept, mainly through the operation of language as a social and, consequently, a suggestive instrument. We all have a vague notion of what adjustment means. It means three things, at any rate, for education: an individual, his world, and the process of bringing them into relation. We may conveniently glance at each factor, and then at the process itself. And we may look at the objective factor, his world, first. It is three-fold like the individual himself. We are going to deal with it as three worlds: nature, society and morality. Whether they are three in one and one in three is a moot point of philosophy, and, of course, one of the most profound questions which a theory of education or indeed any other theory of life has to face. We cannot evade it, big and unsolved as it is; and we shall refer to it from time to time. Indeed, so far as the second and third worlds are concerned, their intimate relation

and partial identity will, it is hoped, clearly emerge. The relation of the first to the other two is a more speculative matter: whether, for example, we see nature with Browning, as the mere "scenery of human passion"¹ or with Tennyson "who gives human thoughts and feelings to nature."² The reader will be free to make his own philosophic choice. Our own development of the question in this essay will point to the unity of all three worlds in a single universe, although we must discuss adjustment to them in separate books. We shall adopt in its entirety the view of Dewey that "education should take its departure from this close interdependence. It should aim not at keeping science as a study apart from literature as a record of human interests, but at cross-fertilising both the natural sciences and the various human disciplines such as history, literature, economics and politics."³ And in finding a place for ideals, for the moral order, we may add in both the natural and social spheres. Here, however, we have to note the distinctiveness of the three: nature in visible form; the "transparent and responsive world of minds"⁴ the fabric of society and civilisation; and the moral order, borne up, as we hope in the sequel to shew, by acts of individual creation. These three worlds are around and about the individual, in a sense which should become clear as we proceed, almost throughout his conscious life; and adjustment to each and all of them is the task of education.

§2. So much, for the moment, for the environment. The individual, it might be thought, needs no description or definition. It is, however, less easy to lay hold of him, even schematically which is our immediate purpose, than of the threefold world he is to be adjusted to. Superficially there seems to be no difficulty. The man in the street would say there are so many million boys and girls, each one of whom has to be adjusted to this threefold world: from the side of the individual, at all events, the problem, complicated though it may be, is straightforward. When we look closer at the individual, as we must if we are to develop sound theory, we soon find that the matter is by no means simple. We must

¹ Stopford Brooke, Browning, p. 70.

² Ibid, p. 68.

³ Democracy and Education, p. 334.

⁴ Ward, Psychological Principles, p. 286, footnote.

try to clear up at least three difficulties and it will be well to tackle them one at a time. The first concerns the separateness of the individuals. It need not detain us long. There are philosophical and social theories which either deny ultimate separateness or take a form which tends to cloak it. They stand on two levels. On the highest there is the theory of a universal mind-substance, a world-spirit in which individuals are supposed to share, and which so far negates the conception of their ultimate separateness. This we may at once dismiss as a theory of no practical value for education, whatever it may contain of ultimate philosophic or religious truth. The problem of adjustment is not affected by it. At a lower level there is the theory of the social organism which we shall have to examine more closely later. All we need say here is that, while we shall endeavour to bring out the vital importance for education of social bonds—the second book will be devoted to this purpose—the notion of society as an organism must not be allowed to cloud over and confuse—as it often does—the conception of real individuality. Matthew Arnold has expressed the doctrine of an extreme unbridgable individualism in an arresting way in his poem entitled "Isolation," and we will quote two stanzas :

" Yes ; in the sea of life enisled,
With echoing straits between us thrown,
Dotting the shoreless watery wild,
We mortal millions live alone.
The islands feel the enclasping flow
And then their endless bounds they know."

After depicting their longing to be joined—"parts of a single continent"—he concludes :

" Who ordered that their longing's fire
Should be as soon as kindled, cool'd?
Who renders vain their deep desire?
A God, a God, their severance ruled
And bade betwixt their shores to be
The unplumb'd, salt, estranging sea."

Here we have the direct antithesis of the world-spirit view. It would seem to be between these two extremes of a common substance and an unbridgable individualism that the truth lies. Both are, in their extreme form, unsupported by science, but both reflect an aspect of truth. There is simi-

larity, perhaps, indeed, identity, partial at all events, between individual and individual, in the innate elements of experience on both its cognitive and its affective side. On the cognitive side we have the spatial and temporal forms of phenomena and the categories of conceptual thinking, e.g., cause and effect, substance and quality, which, whether we regard them with Kant as *à priori* or—which is more probable—as evolutionary products are, as forms or ways of thinking, though not, of course, as objects of thought, probably innate. On the affective side we have far more than forms, viz., the innate instincts out of which, as McDougall⁵ has so clearly shewn, the development of our affective life, even so far as it is organised about the most abstract sentiments, can be explained as a natural process. Also, as he clearly and conclusively shews, their development depends on the reaction of the individual and his social environment at almost every stage. So far the image of the “estranging sea” has no scientific warrant. Nevertheless Arnold’s picture reflects an aspect of truth we must keep a firm hold of. Identity through innate disposition and the web of society must not be allowed to obliterate, so to say, the boundaries of individuality, even to a small extent. It is the fate, and we may add the privilege, of each of us to work out our own salvation. Adjustment must ultimately be individual, however much of past and present experience we share with our fellows. It is interesting to note in this connection that in enumerating the “levels of conduct” McDougall distinguishes the highest stage as that “in which conduct is regulated by an ideal of conduct that enables a man to act in the way that seems to him right regardless of the praise or blame of his immediate social environment.”⁶ The word immediate implies the remoter moral order to which ideals of conduct belong. To that order the individual must himself make good his right of entry.

The second difficulty has also been the battle-ground of rival schools. It turns on the question whether individuality is completely explained by differences in the sum-total of experience which, in the process of adjustment to the three worlds, each one of us accumulates; or whether there is a

⁵ Social Psychology, *passim*.

⁶ *Ibid.* p. 181.

residuum over and above experience, which, even if this were the same—an impossible hypothesis, of course—would still leave A eternally and finally different from B, just because it is A, and not B, who is the subject of experience. It is the old question whether the pure self, the subject, is a reality, as distinguished from the empirical self, which, though it has a subjective brand, is still an object of experience among others. James has argued persuasively and eloquently⁷ that psychology, at any rate, need not postulate such a stable and permanent ego. Ward argues⁸ that such a postulate is a logical necessity. And it seems to us that the victory is easily with Ward, even on the scientific ground of psychology. Our point of view is the theory of education. And, while learning all we can from psychology, we have to ask what religion has to say. We might possibly develop a coherent theory of education on the basis of the empirical ego, knowing itself from moment to moment; but in the practice of education, we need the conception of the pure ego, the immortal soul, as the alpha and omega of our inspiration. We shall be safer, as to this point, with the man in the street than on the arid heights of philosophic doubt.

The two difficulties we have just discussed concern the nature of the individual to be adjusted. The practical teacher and even the student of theory may say he can afford to disregard them. We cannot admit that. If he is to be the exponent of a science or a philosophy of education, he must make up his mind about such essentials as these. Otherwise he remains, to that extent at all events, a rule-of-thumb practitioner. Adjustment cannot be directed without the occasional guidance and the constant inspiration of principle. The third difficulty which we have now to face is, fortunately, not a controversial matter, and it can be got over by clear thinking. It is this. We have so far used language which implies that the individual and the world he is to be adjusted to, whether natural, social, or moral, are two separate and distinct things; and that adjustment means bringing them together and fitting them to one another. We have done so in order to keep to the tracks of every day thought. We

⁷ *Principles of Psychology*, Vol. I, pp. 342-373.

⁸ *Psychological Principles*, pp. 376-382. This is the last section of a chapter which seems to me conclusive.

must now leave them and take up an exactly opposite stand-point. We take as our point of departure the fact that the individual and his world are one. That is just what is meant by experience. It is a unity within which the individual and his world occupy the subjective and objective poles; but it is one and not two, save in the sense that the two, the subject and the objective continuum, the individual and his world, are complementary to each other, in the same way as the biologist regards an organism and its environment as complementary. “The words ‘environment,’ ‘medium,’ denote something more than surroundings which encompass an individual. They denote the specific *continuity* of the surroundings with his own active tendencies.”⁹ Each of the three worlds is only a world at all for the individual to the extent that it is developed—made articulate—within his experience; and, we may add, made warm and intimate through personal selection and appropriation. The term presentation, like the term experience, implies a unity in which subject and object meet; but it differs from experience in being confined to cognition, while experience implies affective and conative elements as well. Experience is the common ground of the individual and the world he knows, feels, and acts upon; and it is one before it is two, not *vice versa*. The child only gradually distinguishes itself from other objects as the consciousness of the self develops; similarly, *avant l'homme est la société*;¹⁰ and similarly again it is out of the objective moral order that individual morality by a process of re-creation emerges.

It follows that no two experiences are alike. “Every individual experience is unique,” says Ward.¹¹ And so James: “It varies in every creature.”¹² This is, of course, the very antithesis of ordinary ways of thinking. The world as known, felt, and responded to in volition being within experience, polarised to the individual, differs from individual to individual; not only because our points of view—spatial, social, and moral—are never the same, but also because “accent and emphasis, light and shade, background

⁹ Dewey, Democracy and Education, p. 13

¹⁰ Ward, op. cit, p. 369.

¹¹ Op. cit, p. 31.

¹² Op. cit, Vol. I, pp. 402, 403.

and foreground,"¹³ are the effect of subjective selection. So many men, then, so many worlds, is a truth which is of fundamental importance for a theory of education. Of course this uniqueness does not mean that there is not enough correspondence to make intercourse intelligible and common education possible. That correspondence is usually sufficiently close as a result of proximity and similarity of points of view, although one has seen children side by side in a Transvaal class-room, e.g., one from the back veld and another from the heart of London, whose worlds have, for a time, hardly anything in common. Language the "instrument of society"¹⁴ soon cross-fertilises them. And we have already noted how common forms of sense and thought, together with common instinctive dispositions, contribute an essential element of correspondence. At the same time it is better to emphasise the inherent uniqueness of experience rather than what is common to mind and mind, if only because it is more likely to escape us, as it escapes every one sometimes and most people at all times.

§3. We have, then, the individual actually or potentially in possession of three worlds given him in experience. We have now to consider the process of adjustment. First we may note that it will be both extensive and intensive. It will be extensive as experience widens. Thus geography and history we may regard as means of adjustment by extension to the first and second worlds respectively and the experience of a school as a social and moral order we may regard as the extension of the third world, in so far as it widens such experience gained in the home. The objective continuum in experience is constantly growing at its edges and thus extending the three worlds to which the individual is polarised. Also there is constantly going on at the same time an intensive development. That we may illustrate from each world. Science will discover in the continuum of material things relations of cause and effect;¹⁵ history will reveal political, economic, national, and religious strands in the social fabric;¹⁶ school experience and literature will make

¹³ James, op. cit, Vol. I, p. 402.

¹⁴ See Book II, Chap. V, p. 255.

¹⁵ See Book I, Chap. III.

¹⁶ See Book II, Chaps. II. and III.

the moral order more articulate in respect of ideals and ethical values.¹⁷ That is to say adjustment will be in the direction of depth as well as length and breadth.

Secondly we must note that adjustment is a two-edged process. This point is vital. If it is real and truly educational, it is as much a process of active appropriation as one of passive assimilation. We shall elaborate this point more fully presently. Here we are just noting it as of the essence of adjustment. In ordinary thinking the environment is conceived as moulding passive material. Bergson, especially, has emphasised the active part which life and consciousness play in the process of adjustment and has given us the conception of creative evolution. We shall embody it in the details of our theory as we proceed. Here we want it as an element in our schema. We want the idea not only of an active acquisitive subject but also of a contributory subject. In adjustment to the worlds of nature, society, and morality we shall find the element of contribution in an ascending scale of magnitude and importance, culminating, as we hope to shew, in the case of the moral order in a process of continual creation. Our view of adjustment will be that of a double-edged process in which the individual wrestles with his environment and, while he appropriates it, also contributes to it, leaving it, it may be hoped, better than he found it. Within the limits of his capacity he should mould as well as be moulded.

Having now some notion, if only a schematic one, of what adjustment within experience means on the objective side of the worlds and on the subjective side of the individual, we may note what the effect on educational theory has been of undue emphasis of one or other of these really complementary factors. Artificial abstraction has given us one-sided doctrines. Emphasis of the objective factor has led to the ideal of the accumulation of knowledge and to barren controversies as to which knowledge is of most worth. Education has been taken out of its concrete setting in life. The ultimate question is not how much knowledge can be compassed in school or in life, or which sort is ultimately of most value, but how the individual can be adjusted to the

¹⁷ See Book III, Chap. III.

truth, beauty, and morality of the worlds he can claim membership of, so as to make them and himself the better for the process. Knowledge we shall want, as much of it and in such variety as we shall find necessary to adjustment. But it is adjustment, and not knowledge as such, which is the goal. Emphasis of the subjective factor has produced the disciplinarians. The ideal of discipline, of gymnastic, torn blindly and ruthlessly from the conception of life's practical purposes, left the schools for centuries isolated, detached and secluded from the busy haunts of men. It has given us grammar instead of language and literature, kings and battles instead of the fabric of society, isolated laws of physics and chemistry without the theory of evolution: dry bones never quickened into life. It has given us platitudes about self-realisation without an insight into the worlds within which the self must struggle and live. Education is neither the mere acquisition of a body of knowledge nor the mere development of power and personality; it is adjustment: a life to be lived.

§4. We may now look a little more closely at this process of adjustment in the three directions indicated; and first to what we call the physical world. It stands over against us in unmistakeable objectivity, continuous in space, material, tangible, and mostly opaque. It is, as the philosophers say, given. But we have agreed to take as our point of departure the fact that it is given in experience, a continuum of presentation. It is ours, so far as we know it. It is not alien: our relation to it is not mechanical, or not only mechanical, like that, say, of wax to the seal that impresses it. In some mysterious way—the unsolved and perhaps insoluble riddle of philosophy—the marriage of subject and object, of knower and known, has been consummated. The first step in adjustment has been taken for us, without our being aware of it. We awake, so to say, to find ourselves not even tenants but freeholders, in virtue of experience, of the world of nature. Without our knowing it, too, we have done much to set our inheritance in order. What Kant called the synthetic unity of apperception has been at work, arranging the phenomena of nature in the form of things ordered in space. That at least is his doctrine. Whether we follow him in the view that this synthetic power

is an *à priori* equipment of man, or whether we prefer to regard it as a product of evolution, modern psychology supports the fact of subjective synthesis. We may safely take as our starting point, then, the world of nature given as a continuum of presentation. Adjustment will mean exploration of it: extensively and intensively. We wish at this point to emphasise the fact that exploration will be of the essence of the process. Not the whole essence because, as we shall in a moment note, æsthetic and conative adjustment must accompany the cognitive business of exploration. But it will be a primary task of education to direct the individual's efforts to explore his physical environment, to make himself at home in it. That no one should be an alien in it seems hardly to need saying, and yet we know how many walk in darkness or with but a glimmering of light.

With regard to the second world, the social fabric, the task is a different one. It is, first of all, to find it. Although it is woven into the texture of experience in an immediate and final way, just as nature is (even more intimately in the prenatal unity of mother and child) it is, like air, transparent and elusive. This is due to the fact that its material is, at first, instinctive, appetitive and emotional rather than cognitive. It is not given in spatial, material form as the world of nature is. It is not, as we may say, on the surface of experience and presentation, but deeper down in the life of feeling and conation. The process of adjustment will in this case be, at first, of the nature of nurture and development and, in some respects, of repression and inhibition of tendencies. It will be extensive and intensive, as in the case of the first world, but the subjective rather than the objective side will be the focus of the educative process. In the nursery and the garden the social world will develop, but will scarcely be revealed. Later the problem of discovery will emerge. School will make the social fabric more real, but it will still be felt rather than known. History will be the first real agent of discovery, and the individual will not be really aware of this second world until there are revealed to him the strands of society—political, social, economic, national and religious—which we shall consider in the second book. To many, indeed, this world, the fabric of civilisation, man-made, is never a reality in the same sense as the

material fabric is, although adjustment to it is as vital to effective existence. The essence of adjustment we shall, therefore, emphasise as discovery, in contrast to exploration of the given—a conception more appropriate to adjustment to the first world.

It may be helpful to carry this introductory note on adjustment to the second world a step further. It is by no means an easy matter to get a real grip of the problem. The social world is a spiritual continuum and thus in antithetical contrast to the material continuum. Perhaps we are justified in saying that it pervades men as spiritual beings in a way analogous to that in which the continuum of relations which we think of as physical laws, pervades the phenomena of nature. It animates and controls their spiritual life, although it has no separate existence apart from them. This somewhat difficult point will be discussed more fully later.¹⁸ The point of view may be further illustrated by the proposition that history is more than a sum of biographies. It records the social evolution of laws, customs, institutions, traditions and spiritual achievements, as well as the contributions of individuals to the process. Social evolution has brought into existence a spiritual continuum, the fabric of civilisation, to which the individual stands in as vital a relation as the air he breathes. But there is this difference consequent on its spiritual texture. The continuum of nature he finds outstretched, the social continuum he must seek if he would find it. The first is solid and resistant, the second spiritual and elusive. The first is a continuum of perceptual, and therefore constraining and arresting, presentations. The second is a continuum of instincts, emotions, ideas and ideals.

The third world, the moral order, is like the second in that it is made of spiritual material, but it is *suigeneris*, and adjustment is of another kind. It is a world of values as distinct from a world of facts. It is a world of divine revelation, and yet science, facing this domain fearlessly, as it should, is now offering an explanation of its natural genesis in the mind of man. McDougall's "Social Psychology" and other similar works, have gone far to make clear how moral and religious sentiment can develop from instincts and

¹⁸ See Book II, Chap. I.

emotions. Such detailed reference as is necessary for our purpose will be made in the course of the third book. It should be made clear there how this divine flower can blossom on the natural plant of human development. Here we are only concerned with its differentia as a world or order. When we say that this consists in its nature as a world of ethical values, as distinct from the facts of the physical and social worlds, the meaning will be clear enough for our present purpose—the creation of a schema which will make attention to further detail easier. Everyone has a general idea of what is meant by ethical values. They seem to make a world reserved for man: animals, even the most domesticated, appear to be shut out from it. And even man has only the right of entry in proportion as he can cast off, inhibit or transfigure the nature he shares with animals. Some men only get occasional glimpses of it, for the majority its light is fitful, and few find in it a continuum of illumination and inspiration. The reason seems to be that its reality, its very existence, for the individual, depends on acts of subjective creation. In other words its objectivity, for him, is self-made. Indeed its total objectivity, so to put it, at any time, depends on the resultant of the moral insight and purpose, together the moral momentum, of men. This does not, of course, affect the question of its divine origin. It does not affect the objective character of the inspiration which the lives of great men and the thoughts of great writers originate. It does, however, mean that for the individual, and thus for a theory of education, the central conception is neither exploration, nor discovery, but creation. As the differentia of this world, then, is a fabric of moral values, so the differentia of adjustment to it is the conception of creation. The third book will be developed from this point of view. It follows that this third world will not have the unity and continuity, or the objectivity, for the individual, of the first two. Moral education, indeed, is, as we hope to shew, just the effort to create them. Success at the best will only be approximate. We shall take advantage of moral impulse, example, and even precept, as the material which mediate adjustment, just as we work on the phenomena of the physical and the social worlds. But the adjustment in the case of the moral order will be by creation and adoption. This order is man-sus-

tained at the same time as it is divinely revealed. It is borne up, like the fame of Browning's grammarian, on the hymns and shoulders of men.¹⁹

The conception of adjustment which we have chosen in the case of each of the three worlds, and the names we have appropriated—exploration, discovery, and creation respectively—suggest cognitive activity, especially the first two. What we have said implies feeling and action also, but it may be well to state it expressly. The three continua are, of course, not for contemplation only: they define spheres of action. That is what adjustment means. There is, no doubt, something in the parallelism between cognition, feeling, and conation as aspects of experience, and the three worlds of nature, society, and morality. But there is no point, for a theory of education, in pressing it too far. For on the side of mind we can only separate these three aspects by a process of abstraction. Every concrete psychosis reveals all three elements though in varying proportions. On the side of the worlds, too, there is inter-penetration. For example, there is moral value, as well as social utility, in a scientific investigation of, say, ocean currents; history is the outcome of the application of both scientific and ethical criteria to recorded facts; and an ethical truth has social application in a material world. The threefold man must be adjusted to the threefold universe.

We may take another glance at our three worlds before leaving this preliminary survey. The second is intermediate between the first and third from the point of view of continuity and stability of existence. The first is the world of birth and death, of growth and decay, so far, at least, as its organic forms are concerned; and its inorganic forms are in an eternal flux of composition and decomposition. The rhythm of development, maturity, and decline is, indeed, a feature which may, without strain of metaphor, be predicated of the process of evolution in all its forms, organic and inorganic. The second world is, by comparison at all events, a stable and progressive structure. This sounds paradoxical. We are so accustomed to think of the physical and material—men, trees, mountains—as the standard and archetype of

¹⁹ "Let us begin and carry up this corpse,
Singing together."

the stable and permanent, that the suggestion of their inferiority in these respects to that attenuated social and spiritual fabric which we call in a comprehensive way civilisation, seems extravagant and absurd. Yet it is profoundly true. Civilisation, as the repository of spiritual achievement, is more tenacious of its treasures than the physical universe. The bones of Hamlet or his prototype have long been dissipated through the fields of Denmark, but Shakespeare's conception and delineation of that complex personality will live for ever. The reluctant fingers of King John are of the earth earthy, but the Great Charter lives in the law-courts of to-day. The planets are changing, but Kepler's empirical laws and Newton's rational interpretation of them are validated every hour. What we may have lost by the apparent explosion of the theory of the transmission of acquired characteristics from parent to child, we have, perhaps, more than gained in the accumulated products of social heredity. History, literature, politics, economics, science, live on and are for ever extending the unbroken fabric of civilisation. It is here, if anywhere, that we find continuity and progress. While the first world is the world of birth and death and the second the world of unbroken and progressive life, the third is the world of eternity. For although we, with our human limitations, progress but slowly and painfully towards the good and evolve our ideals as we go, our very progress and our developing ideals postulate a moral order eternally true and eternally perfect. Between the world of growth and decay and the world of truth and perfection, the world of progressive civilisation stands, linked on to each by the bonds of destiny. The chains are unbreakable. Man is harnessed to his physical environment but he embodies and mediates the moral order.

We may also look again, in the same general and comprehensive way, at the process of adjustment. It will reflect the characteristics of each of the worlds man inherits. As a member of the physical world he will experience, in adjustment, its waxings and wanings over shorter and longer cycles. Morning and evening, summer and winter, will have their ups and downs, their successes and their failures. Childhood, adolescence and manhood, will develop, mature and decay, each with its characteristic achievements and

short-comings. As a social being, if adjustment is successful, his progress should be more uniform and cumulative, as the woof and warp of his social inheritance are more clearly displayed and envelop him more closely and intimately. As a moral being he will have to re-create and help to support the ideal order, the order of values; but he will have the abiding satisfaction of knowing that the more coherently he can weave the details of conduct into it the more he will be laying hold of the steadfast and stable, the eternal element of life. And it is clear that adjustment in all three directions must be a continuous process and one without finality. It is well to get rid at the outset of all notions of boundaries between schooling and life: boundaries and barriers in time or between agencies. Education is as long as life and as wide as life. The distinction between primary, secondary, and higher education, and that between the education of the home, the school, and the world, are purely artificial. Adjustment is constant, and, as we are to maintain, three-sided. We may add that within these conceptions that of vocational adjustment will find its true place. We shall deal with it in a separate chapter. Here all we need say is that adjustment to our three worlds will be the final criterion of it that we shall apply.

§5. The next question is what use we are to make of the guidance—perhaps we had better say inspiration, or, at any rate, put it first—which psychology, logic, ethics, sociology, and philosophy offer to the student and practitioner of education. This seems to be the proper place for a discussion of it. We have indicated, in outline, what we take to be the purpose and scope of education. That it seemed necessary to set down first. Education must define its task before considering what help it can get from scientific truth and philosophic speculation. It must stand on its own feet, like law or medicine, demarcate its own province, and extricate its own goal.²⁰ It is the more necessary to insist on this, because education is a science and an art which stands between the natural sciences, like physics, botany, and psychology on the one hand and the theories of value, like logic,

²⁰ The article by Professor Findlay on the Science of Education in the second volume of the Reports of Special Enquiries, Board of Education, London, may be consulted.

aesthetics, and ethics, together with the speculations of philosophy, on the other. It is true, indeed, that even in attempting to define its scope and purpose by means of a direct and immediate survey of the life to be lived, as we have tried to do, it is impossible to escape the implications of the theories and speculations of the enquiries which lie above it, and of the results of those which lie below it. That is because they themselves throw direct light upon the whole life to which the individual is to be adjusted. This does not, however, affect the logical priority of educational purposes and aims. Nor can we evade *à posteriori* and practical considerations. Experience, tradition, social needs and aspirations, economic considerations—these are some of the factors to be taken into account, as well as scientific results and philosophic ideals, before we can arrive at a right orientation towards the task of education. They will emerge in this essay as we proceed. If we start from either end and try to find, by deduction, a road to the goal of education, neglecting the other factors just mentioned, we not only abandon the claim to independence which a theory of education can and should vindicate, but we arrive at a one-sided and abstract point of view which does not take in life in its concrete complexity. From the top the path leads to idealism cut off from the firm ground of fact, and from the bottom to an uninspired naturalism; and both ways arrive at the individual in isolation; whereas, as we maintain, the end is the individual in adjustment to three worlds. The theory of education should take up its own ground.

It is perhaps in the practice rather than the theory of education, however, that the deductive line of approach, especially from psychology, has found so many adherents. It is, therefore, necessary to state as clearly as possible what we hold to be the sound view in this sphere also. The issue may be made clear by asking what is meant by the application of psychological theory to teaching. Now, it is always dangerous to dogmatise about education. It is a business of so many departments that pushing one may hinder another. There is an obvious sense in which every bit of theory and every successful, or, indeed, unsuccessful, effort at teaching, is the application of psychology. Principles and results must be according to nature. It may also safely be said that

there is no gleam of insight into principle which arrests the thinker with the sting of reality, that will not, sooner or later, illuminate some detail of practice. The reward of reflection is certain. The bread cast on the remotest waters of science or philosophy is found again in the course of the days. But consider the elements of success in any successful bit of teaching. They will usually be found to be sympathy, intuition, enthusiasm for the subject, the outcome of quick diagnosis which we call tact, and adaptability, born of experience. And these are just those elements which, while they are, of course, of psychical origin, almost elude the most rigorous psychological analysis. They cannot ultimately elude it, but the student without them may get up from an application of, say, McDougall's thorough examination of the constituents of sympathy, with a feeling of despair about translating them from the pages to the class-room. And the best teachers will be ready to admit that the fountain of these rare aptitudes often runs dry. Consider again the arresting fact that that warm vital contact has to be established with thirty different pupils who, with the best efforts at classification, will face the topic with thirty unique systems of apperceptive machinery. That fact alone should give us pause before we set out light-heartedly to "apply" psychological doctrine. The truth seems to be that the time for such doctrine is before we face the concrete situation, when we are rehearsing the task whether in the elaborate form of notes of lessons or in the preliminary mental forecast which the very best teachers cannot afford to shirk; and afterwards when we are feeling the glow of success or the ebb of failure. It is not unlike golf. Thinking before and after is the way to such success as we are capable of, but it is as likely as not to hinder the playing of the stroke. Let it be repeated that no glimpse of theory, whether of science or philosophy, will lead a man astray. The practice of the naturally expert and of the less gifted will inevitably be better for it. And both will realise the inestimable privilege of membership of a vocation rationally buttressed as a profession. The educator, be he preacher, politician, parent, or schoolmaster, who has lived himself into scientific and philosophic truth, will find it an abiding source of inspiration. The guidance he will get will be constant and pervasive. It will not be a substitute

for that native power of touching the springs of responsiveness, but it will unquestionably develop and perfect it. Only it is not to be thought of as machinery to be directly applied ; it is the turning on of light.

§6. In recent times interest in psychology has been steadily widening and deepening, and not least in its application to the theory and practice of education ; and we may profitably consider broadly the significance for our purpose of any recently-established general truths, or of the harvest of any new field of enquiry. The old ground has been illuminated by new conceptions and new ground has been, and is being, broken. We must be alert, ready to adapt our theory and practice to the progress of knowledge. But we must also be wary. We need established truth, not unestablished hypothesis. The mere glamour of new possibilities should not tempt us from the firm ground of the old and the tried. On the other hand, the cake of custom and the established is often opaque to new light. Conservatism is useful but its glance is always behind ; science and philosophy look constantly ahead. Flexibility is not incompatible with stability.

Perhaps the principle of most profound significance for us is what we may call the dynamic character of experience and particularly of the subjective element in it. Conceptions derived from biology, e.g., psychoplasm, have almost entirely replaced conceptions drawn from physics, e.g., the atomistic idea of psychic elements. The subject is no longer thought of as a passive being, merely beaten upon and shaped from without. He is, when he becomes a self-conscious individual, rather the predominant partner in the business of adjustment. While as a mere animal, as organic tissue, as one with the other elements of organic and inorganic nature, he is merely a product and development of natural forces, as a self-conscious personality he contributes more and more to experience as he develops weaving its fabric after his own pattern ; a human pattern, of course, because he and his fellows are built after the same general mental plan ; but an individual pattern, because the content of his own past experience becomes ever more organised as time goes on, and new material is immediately woven in with the old. This is always so in mature life, unless some com-

pletely revolutionary thought or purpose is revealed and reshapes us. But that is rare. And anyway the process of life practically in its entirety, both before and after such a revolution, if it ever occurs, may be described as dynamic development of the subjective factor in experience. There is a fine compensation as between man as a part of the natural world and man as a member of the world of self-conscious experience. The former is in the main controlled by his environment, the latter, in the main, makes his own.

This dynamic conception of the subjective element in experience had its origin in Kant's philosophy. The Cartesian dualism had led on the one hand to the rationalism of Leibnitz and Wolff and on the other to the empiricism of the British school, culminating in the scepticism of Hume from which Kant's critical thought emerged.²¹ But, whatever view may be held of the relation of the pure and the empirical ego, all modern psychologists postulate an apperceptive process. We pass inevitably to the conception of the ever-increasing potency—the dynamic quality—of the subjective element in experience. The works of Ward, James, and Stout are pervaded by this conception of subjective and synthetic activity.²²

The same point of view is revealed in the modern tendency to define psychology in terms of experience rather than consciousness, and to reject intellectualism. "A decided reaction against intellectualism, which first set in more than a century ago among philosophers, has since been greatly extended and confirmed by the ascendancy of evolutionary ideas and the consequent growth of genetic and comparative psychology. The result is that in the present day psychologists are beginning more and more generally to insist that not intellect but will, not cognition but conation, not sensitivity but activity, is the clue to a true understanding of the character and development of experience."²³ It is this dynamic synthetic quality we wish to bring out, and the consequent individuality of experience. So many men so many worlds is true because, as we now note, they weave the material given into a pattern of their own, fixing not merely

²¹ J. M. Baldwin, *History of Psychology*, Vol. I, pp. 95-99.

²² See especially Chapter I of Ward's *Psychological Principles*.

²³ Ward, *op. cit.*, p. 20.

the warp of cognition but the woof of conation. From the same source, the synthetic activity of the subject, come also the unity and continuity of experience. Its form, pattern, and coherence are thus the work of the individual.

We note, too, that change coexists with unity and coherence. The terms current now are such as these : differentiation within a continuum, mental process, the "stream" of consciousness, "section" of the stream. Whether direct or metaphorical expressions are used the implication is of change and flux. That no two moments or phases of mental process have the same significance, that there is no repetition in experience—these are now the commonplaces of psychology. Dynamic evolutionary conceptions have completely displaced innate idea, faculty, and psychic atoms of fixed and determinate quality. The very opposite idea of constant change, of complete fluidity, holds the field. "There is no feeling, no idea, no volition, which is not undergoing change every moment : if a mental state ceased to vary its duration would cease to flow—the truth is that we change without ceasing."²⁴

We may note here that Bergson has added the notion of creation to that of change and evolution. From change to creation is a big step, but the transition is helped by the conception of momentum. And certainly that conception is also pervasive of the writings of Ward, James and Stout. There seems, indeed, to be very little doubt that the idea of creative evolution may appropriately be applied both to individualistic experience and to the common experience which constitutes history. Whatever may be the judgment of posterity on it as a theory of the genesis of all reality, of life and matter, of the organic and the inorganic, it does unquestionably appear to be of vital significance for the spiritual life we call experience, whether of the one or of the many in common. It is certainly foolish to refer to the thought of James and Bergson as obscurantism,²⁵ or to fulminate against the latter as Bateson does.²⁶ The conception of creative evolution does not stand or fall with the idea of intuition. Something like it is behind Bradley's dictum that association

²⁴ Bergson, *Creative Evolution*, pp. 1, 2.

²⁵ As Dean Inge does, *Cambridge Essays on Education*, p. 14.

²⁶ *Ibid.*, p. 138.

marries only universals; and behind the theory of relative suggestion²⁷ as developed by Stout and his whole doctrine of mental activity.²⁸ It is contained in embryo in all Ward's psychology. It is certainly a conception which fits with the theory of education adopted here. It is perhaps not irrelevant to point out that experimental psychology as applied to education is shifting the centre of gravity of method from teaching to learning, from outside to inside, from the teacher to the pupil.²⁹ We shall not hesitate to add the conception of creation to that of an active principle—the logical subject demanded by the very idea of experience, whether we call it the pure ego or not. We have, indeed, already almost assumed it in referring to adjustment as a double-edged process. We have actually postulated it as of the essence of adjustment to the moral order. We believe it to be a factor of adjustment to the first and second worlds also.

Another principle of first importance which, in its full and eloquent explication at all events, we owe to the late Professor James, is the doctrine of psychic fringes.³⁰ He distinguishes the focus of a presentation from its fringe, margin, or halo. The former is clear in consciousness. It may be anything from a percept like an orange to a concept like the British Constitution. The latter is vague and inarticulate but nevertheless intensely active. James calls it a "feeling of tendency," using the term feeling in a cognitive sense. It is an awareness of relations. What is in focus "swims in a felt fringe of relations."³¹ The fringe gives it familiarity, or relatedness, binding it, though we are not conscious how, to what has gone before or what is coming after in consciousness. The context of meaning which a single word in a sentence has, is known by this fringe in consciousness. The paragraph is similarly related to the sentence and the whole topic to the paragraph. "It is no exaggeration to say," writes Dr. Stout, "that this mode of thinking pervades our whole mental life. If it is ever absent, it is absent only in very primitive phases of conscious experience."³²

²⁷ Analytic Psychology, Vol. II, Book II, Chap. VI.

²⁸ Ibid, Vol. I, Book II, Chap. I.

²⁹ Cf. Rusk's, Experimental Education, pp. 199-230.

³⁰ Principles of Psychology, Vol. I, pp. 249 ff., 281, 282, and 471, 472.

³¹ Ibid Vol. I, p. 289.

³² Analytic Psychology, Vol. I, p. 92.

The principle is important for us because it indicates the birthplace of the unity and continuity of experience which is an essential of adjustment. It is the point of departure for the evolution of experience as a coherent whole. The way in which the lower aspects of conscious life, e.g., percepts, are taken up into conceptual thought—what Kant found such a stumbling block, viz., the bringing of perceptions to conceptions—finds an explanation in this doctrine of fringes. It bridges the gap between the empirical and the rational, a task so difficult, e.g., for Descartes, limited as he was by his static conception of the *res cogitans*. It is also a sound index to the solution of a frequent problem of pedagogy. The question how far we ought to try to make rational a process which can be done empirically, like the multiplication of decimals, when it is first attempted, is one which is constantly recurring. The doctrine of fringes points to two things. It indicates that, without our intervention, save to see that the difficulty is introduced at the proper place, the fringe of relations will be there. We have something to work upon. We are justified in inferring, in the second place, that we shall proceed soundly if we let the fringe, the rationale, come gradually into focus. If we vary our empirical procedure—our examples—wisely, the fringe of relations will vary with them and at the appropriate moment the rational element will emerge into full life. And conversely, we may create a fringe, for example, by a quick reading over of a play, which will operate as an agent of appreciation of passages, incidents, scenes, and characters as they emerge. So also a final reading will give a final unity. We may go so far as to say that the whole process of adjustment to all three worlds depends upon a sound appreciation and a proper use of focal and marginal factors in experience. Only we shall do well to observe a warning which Dr. Stout gives. "His terminology" [James'] he writes, "is convenient, and we shall use it freely. In one respect, however, it tends to mislead. It is apt to give a false impression of the comparative importance of the distinct apprehension of the part [the focus] on the one hand, and the distinctionless apprehension of the whole [the fringe] on the other. Fringes are less essential than that which is fringed; overtones count for less than their fundamental tone; a halo is merely an appendage of what it

encircles. But in the metaphorical application of such terms, which we are now considering, this does not hold. If anything is to be regarded as relatively unessential, it is not the psychic fringe but the image or other apprehension of detail which it fringes."³³

These two principles, the synthetic and creative activity of the subjective factor in experience and the fringe of reference in almost all presentations which is a dynamic factor giving continuity to experience, we must take over from recent achievements in psychology, so that they may inform and pervade both our theory and practice. As to new departments, new fields of enquiry, it is significant that perhaps the most fertile also throw most light on the active side of mental life. We refer to the work of McDougall,³⁴ Ross,³⁵ Shand,³⁶ Graham Wallas,³⁷ and Drever,³⁸ on the instincts, emotions, and sentiments, and their effect on the conative and volitional development of man. The first-named refers to it as a "dynamic, functional, voluntaristic, view of mind."³⁹ It is astonishing to think, when the results already reached are considered, that, while cognition and volition have been so exhaustively analysed, mainly from a static point of view, the mediate area of instinct and emotion, whence the whole motive force of the mental life is derived, has remained so long practically unexploited. It is astonishing, first, because the evolution of individual experience on its dynamic side is involved. We are now in possession of at least the broad outlines of a genetic account, connecting the highest abstract sentiments with the innate instincts which man has inherited from his animal ancestry, and shewing their composite functioning in the complexity of his emotional life. We have revealed, in outline, the development of an affective and moral continuum in experience, comparable with the development of the cognitive continuum.

§7. In the second place this new psychology shows us that development in its social implications. We have here a

³³ Analytic Psychology, Vol. I, pp. 92, 93.

³⁴ Social Psychology.

³⁵ Social Psychology.

³⁶ The Foundations of Character.

³⁷ The Great Society.

³⁸ Instinct in Man.

³⁹ Op. cit., p. 16.

subjective key to adjustment to the second and third worlds especially, but also to the first. It is clear that a student of that adjustment must make himself thoroughly familiar with that key. We shall refer from time to time to the results of these investigations, but the student must not be satisfied with occasional references. He should realise that he must take up its standpoint and develop a thorough familiarity with its field. An analysis of consciousness will no longer furnish an adequate equipment. He must be at home in experience on the side of behaviour, and the springs of behaviour or conduct, in both their individual and their social implications.

There are two other recently-explored fields of enquiry to which we must refer : experimental psychology, especially in its educational applications, and organised child-study. They serve two most important purposes. First they aim at correcting and amplifying the results obtained by introspective methods, and by the observation of individuals which can only be interpreted by introspection. It should be clearly understood that they do not affect the position maintained by the foremost psychologists, e.g., Dr. Ward,⁴⁰ that the standpoint of psychology is essentially individualistic. Experience is the subject-matter of psychology and experience on the side of consciousness, feeling, and behaviour, is a phenomenon of individual life. And adjustment, our topic, is an individualistic process. At the same time whatever of precision and generality experimental and comparative methods can contribute is clearly of the utmost importance. It is a contribution to psychology as a science. Secondly—and this is only another way of putting the same truth—these two methods will elucidate and validate our knowledge of the individual himself : what qualities, dispositions, and powers he shares with his fellows, and what peculiarities of quality or intensity are his own. Their results will thus be welcome to every true student of the theory and practice of education. There are enthusiasts who see in the experimental and comparative psychological study of children a possibility of replacing our tentative methods of evaluating their potentialities and attainments by a precise and scientific estimate. The Binet tests, with their elaborations and refinements, have

⁴⁰ Psychological Principles, pp. 26-28.

apparently been fruitful in investigations into alleged mentally deficient children. A card recording the results of scientific diagnosis at successive stages of a pupil's schooling, is promised us.⁴¹ It opens out a new prospect and the more fields we can draw upon the better. We shall have to be content with this bare reference. These new departments have not yet reached the frontiers of the empire. At the time of writing,⁴² there is, so far as we know, no properly-equipped laboratory of experimental psychology in South Africa. Nor has any scientific observation of normal children been organised. In connection with the medical inspection branch of the Transvaal Education Department Dr. J. M. Moll has made a careful study of mentally deficient children. With these unfortunates a beginning has been made. Otherwise the field of experimental and comparative investigation is unbroken.⁴³

§8. We come now to a point of fundamental importance. It is the position and function of the teacher in relation to this business of adjustment which we take to be the end and essence of education. In the process itself there doesn't seem to be any room for him. On the one hand there is the individual and on the other the three worlds, and in the miracle of experience they, the subjective and the objective, have become one; while adjustment is but the elaboration and extension of this unity. The whole business is between the individual and his worlds, and the teacher is outside it, external to it. He may facilitate it, turning his attention to one or other member of the wedded pair. He may approach the individual, and his avenues of approach will be one or other of the instincts or emotional dispositions which are the prime movers of mental life. He may try fear, pugnacity, curiosity, or sympathy, or a combination of them, to quicken the current which seems to him sluggish. Or he

⁴¹ Adams, *Evolution of Educational Theory*, pp. 352-363.

⁴² October, 1919.

⁴³ A useful summary will be found in Rusk's *Experimental Education*. The reader may wonder at the absence of all reference to the developments of psychology associated with the names of Freud and Jung and to what is called psycho-analysis. There is no doubt of the great importance for education of this field, including as it does such topics as mental activity beyond the boundaries of consciousness, submerged complexes as springs of conscious behaviour, and, generally, forces which profoundly affect conscious life though we may be unaware of them. No doubt adjustment in the individual case will be conditioned by them, but they hardly seem to be ready to be woven into any general theory.

may approach the fact or truth, whichever of the three worlds it belongs to, and see whether anything can be done by lighting it up, or lining in main features and blotting out detail, to facilitate adjustment. But whether he tries subject or object or both together he remains outside the process, a spectator, a manipulator, perhaps a disturber; he is never in it and of it. Within that mysterious synthetic activity through which the individual is at once appropriating and contributing to his environment, forming and being formed by it, and which we are considering under the conception of adjustment, the teacher has neither place nor part.

And yet the very opposite view is commonly, indeed, almost universally, held. It certainly is by nine hundred and ninety-nine parents out of a thousand. When they send their boy or girl to school, their idea is that the teacher is in possession of something which he will pass on directly to the child. No doubt there is much less ignorance than there was about what schooling means. Probably the seal and wax conception is less prevalent than it was. The growth of democracy has raised the value of the individual and his schooling, and the meaning and purpose of it are topics to which men's minds are turning with greater persistence. Development as well as learning has now, no doubt, a place in the average parent's conception of it. But there is no question that he would describe that development, if he ever attempted to, as the result of direct contact of teacher and pupil. He would say that fact, truth, knowledge, was transmitted or instilled by a direct process. That is part of the current meaning of teaching or instruction. They are thought of as directly analogous to inoculation or impregnation. The business is one between pupil and teacher immediately and directly.

The same idea pervades text-books on teaching. One would be quite safe in saying that it also permeates the thought and practice of the majority of teachers. The pupil is one term of the relation, whether thought of as acquisition or training or both; and the teacher is the other. A commonplace of the text books will illustrate the point. The teacher must take up a position where he is in focus to every member of the class. Why? In order that he may be most advantageously placed for the business of inoculation. The neces-

sity for the activity and co-operation of the pupil is not lost sight of. But the underlying assumption is that direct action and reaction between teacher and pupils is the essence of the process. School architecture starts out from the same assumption. The deep oblong is the usual shape of a class room, and the justification is that in it each pupil falls within the angle of vision of the teacher when in his correct position in the middle of the platform. If it be asked why he should be, an answer assuming the necessity of direct and immediate relation and communication between teacher and pupil may be confidently expected.

Take again the common implication of such a statement as "A taught me mathematics." What is it but that A instilled into me some of the knowledge he possessed, that he inoculated me with it? But surely that is superficial and erroneous, and the fundamental truth is that he put me *en rapport* with mathematical processes, and such success as was attained is properly described as my adjustment to this quantitative aspect of reality and that of it to me. The adjustment was not of me and him but of me and this department of truth. And the issue is vital. For we all know that A sometimes is so imbued with the conception of instillation that he is a positive hindrance to adjustment, well meaning and enthusiastic though he may be.

§9. We find the same idea haunting educational theory on a scientific and philosophic level. Professor Adams, in his search for the connotation of education, submits the conception to a rigorous logical analysis, as a result of which he finds that it is bi-polar. After deciding to adopt education for the wider all-comprehensive term that includes teaching or instruction as a part, he goes on to say: "The close connection between the teaching process and the educative becomes clearer when we realise that they have in common a characteristic that may be called bi-polarity. In both cases there are two forces concerned, both imply an active and a passive member: there is the teacher and there is the pupil, the educator and the educand. The interaction between these pairs is essential to teaching and to education. There must always be a teacher-or-educator pole and a pupil-or-educand pole."⁴⁴ He explains how, with

⁴⁴ Evolution of Educational Theory, p. 18.

the progress of education, there is a gradual transfer of the centre of gravity of the process from the educator to the educand pole. "There is a gradual redistribution of activity between the educator pole and the educand pole. . . . A good system of education is marked by just this transition step by step from educand pole to educator pole. At the earlier stages the external educator does practically all the work as educator that is to be done; but as the process advances the educand takes a hand, and by and by comes to such a mastery of himself that he is practically his own educator."⁴⁵ When he discusses what he calls "subjective education," he says: "In subjective education we have the phenomenon of the merging of the educator in the educand. The self takes the self in hand, so that educator and educand are one. . . . Polarity in education is in fact nothing more than a special application of the subject-object relation in the ego."⁴⁶ This is very near to the position we wish to establish. Referring to what he calls "cosmic education" he describes it as the process in which "Nature is at the educator pole."⁴⁷ The result of his analysis of the concept of education he gives as follows:

- "(1) It is a bi-polar process in which one personality acts upon another in order to modify the develop of that other.
- "(2) The process is not only a conscious but a deliberate one. The educator has the clearly realised intention of modifying the development of the educand.
- "(3) The means by which the development of the educand is to be modified are twofold; (a) the direct application of the educator's personality to the personality of the educand, and (b) the use of knowledge in its various forms. We shall find as we go on that the communication of knowledge tends to play the predominant part."⁴⁸

⁴⁵ Ibid, p. 19.

⁴⁶ Ibid, p. 22.

⁴⁷ Ibid, p. 31.

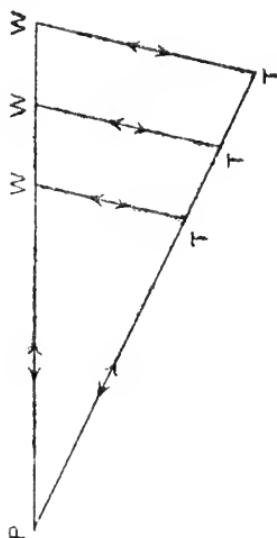
⁴⁸ Ibid, p. 39.

He goes on to add that "It remains to be discovered what the aim of the whole process is. It will be felt that it is too vague to say that it is merely to modify the development of the educand. We want to know in what direction the modification is to take place. We know in a general way the process; but we do not yet know its goal."⁴⁹ He indicates that *self-realisation* and *many-sided-interest* are two aspects of the goal which are really complementary, and that in their combination or composition a solution will be found. We think they can be combined in the unifying conception of adjustment.

§10. But our difficulty is that a logical analysis of the conception of education, abstracted from any idea of the end to be achieved, will not reveal the true relation of pupil and teacher, of educand and educator. And the bi-polarity it does reveal, is not the relation revealed when we consider the two at work on the concrete process of self-realisation and the development of a many-sided-interest which we combine under the notion of adjustment. Abstractly considered there is no question that education implies the bi-polarity of educator and educand, and in the concrete process of adjustment there is what might be called a subordinate and ancillary bi-polarity of the two. But it seems to us that the essential and final bi-polarity in adjustment is of the educand and his worlds in experience. It is just what Professor Adams has himself described as "the subject-object relation in the ego." In that description of polarity, however, there is no room for the teacher or educator. He has disappeared from it just because he has served his subordinate purpose. We prefer to say that from the very beginning of teaching and education, the essential poles are the pupil or educand and each bit of the worlds to which education and teaching adjust him and which he adjusts to himself. In the interests of both sound theory and sound practice it seems to be essential to assert the altogether subsidiary, ancillary, and transient personal bi-polarity of teacher and pupil or educator and educand. As Bergson might put it, the logic of education, as such, is static, and must be adapted to the dynamic process of adjustment.

⁴⁹ Ibid, p. 39.

Let us try to represent the process, as we conceive it, by means of a diagram. It is crude and subject to the disadvantages of all diagrammatic representation of the fluid character of mental process; but it may help.



Let us suppose that P represents the pupil and W a fact or idea belonging to one of the three worlds which the three concentric circles may stand for. We need not distinguish one from the other, by means of different letters, for our present purpose. The straight line from P to W may represent adjustment, the double-edged nature of which the double arrow-heads may indicate. Let T be the teacher supposed in one or other of the three worlds according to the nature of the fact or idea being presented. The lines from T to W, with the double arrow-heads, may be taken to indicate that he is himself completely adjusted (if that is possible) to the fact or idea. The line from T to P with the double arrow-heads can indicate that teacher and pupil are *en rapport*.

Now adjustment means a spiritual flash along PW. There may be a current along PT of imitation, suggestion, or sympathy, or one set going by a primary emotion, e.g., tenderness from T or fear from P, or by a habit of obedience from P. But whatever its nature, such a current is ancillary to the flash. We may go further. Since P's total mental activity is limited, any drawing off of energy along PT may diminish the amount available along PW. It seems, indeed,

that T's most effective help will be along TW. He can be most profitably employed facing W, bringing out its features, and when, as for a question, he turns to P, not diverting the current along PW. It may be said that we have begged the question by placing T outside the line PW, and the critical case of T at W in moral education may be adduced. We shall deal with that particular difficulty in a moment, and the corresponding one when the teacher is lecturing and seems to be at pole W. It will be sufficient to say here that in our view P never actually coincides with W. He is often in front of it, in the line PW, but then his business is to make himself as transparent as possible.

It would seem that the inference from education as adjustment, as distinct from education as such, abstractly considered, is tri-polarity and not bi-polarity. It would be if two conditions were fulfilled; first that the direct, polar relation of the teacher was always necessary, and secondly that his relation to either pupil or world was of that fixed and definite character which the conception of a pole connotes. But neither condition is constantly fulfilled. He often finds it more helpful to adjustment to efface himself or constantly to shift his ground. In other words the bi-polarity of him and his pupil is a purely ancillary and transient relation.⁵⁰ We shall retain the conception of bi-polarity then, but take it to be primarily and essentially of pupil and his worlds, not of pupil and teacher. We are convinced, indeed, that this conception of direct relation and action, of the pupil at one pole and the teacher or educator at the other, is fundamentally unsound. It is the natural outcome of a partial view of the aim of education, but does not represent the essence of it in the wide and comprehensive sense which we are proposing to define as adjustment. The partial view may be that of the development of powers and qualities abstractly—education in the narrow sense—or that of the communication of know-

⁵⁰ Welton's presentation of the case exhibits the same fallacy, from the point of view of education as adjustment. "Assuming that the end is determined, and so putting it on one side for the present," he writes, "it is evident that the problem of means is that of the influence of educative agents upon those who are to be educated. It is, thus, essentially psychological. . . . It is a psychology of interaction, and therefore must take account of the spiritual life of the educator as well as that of the educated, and *must so understand the relation between them that they are seen as correlative factors in one process.*" (What do we mean by Education, p. 10, italics mine.)

ledge abstractly—teaching in the narrow sense. The comprehensive view of education as adjustment, as living, necessitates the inference that it is to the environment—our three worlds—within experience that the orientation of the pupil or the educand must be made; and that the teacher or educator is essentially and ultimately an indirect factor in the process. We are convinced, too, that both partial views have carried with them all the disadvantages of borrowed external values and of dogmatism. It is not uncommon to hear a teacher of literature anticipating, and so arresting, aesthetic appreciation on the part of his pupils by pronouncing his own; to hear a teacher of history arresting a spontaneous movement of his pupils towards inference from facts, by his own inopportune theorising and eloquence; or to hear a teacher of mathematics himself lauding the neatness of a solution, when his pupils are warm with the sense of it. It is a thing not unknown to hear a teacher of elocution imposing modulations of voice, the very idiom of appreciation, on pupils themselves ripe for declamation. Such obstacles to real adjustment can only be the outcome of a radically perverse view of the teacher's task. We are convinced, finally, that this idea of direct action and, we may add, direct responsibility, more particularly with regard to moral and religious training, is what keeps many conscientious men from adopting the schoolmaster's profession.

§11. The point is such an important one that it is worth while trying to fix our view of the relation of the teacher to the business of adjustment by means of an illustration. If the direct communication of content is an erroneous conception of teaching, if there is nothing more than the establishment of a relation between the subject and the object of experience in what we mean by adjustment, what is the precise function of the teacher, so often thought to be an immediate factor in the process? Let us take an illustration of adjustment to the first world, the world of nature. A convalescent boy is sitting in a chair which has been placed in a shady part of a garden. A butterfly alights on a flower just inside the boundary of shadow. Through the enervated gaze of convalescence there arises in consciousness a blurred presentation in which insect and flower are scarcely distinguished. At that moment the mounting sun shortens the shadow and

illuminates both. The presentation develops detail where blur was: the diaphanous wings and busy antennae emerge from the continuum. The convalescent has taken a step forward in adjustment of a cognitive nature; cognitive content has been enriched. Perhaps he has also felt the glow of æsthetic appreciation. Adjustment both cognitive and æsthetic has been conditioned by light. A greater measure of subjective activity, of attention, might have produced the same result while flower and insect were in the shadow. It was, as it happened, facilitated and conditioned by light. If, however, the conditioning and facilitating had been brought about by human agency, say by a nurse who gently bent the stem of the flower and carried it and insect across the boundary of shadow, we should have had an act which embodied the essentials of teaching. The wind might have done it, but the differentia of the nurse's action is purposiveness. If, now, we say that the nurse directly changed the continuum of presentations in the experience of the convalescent we shall be committing the fallacy of making her and him bi-polar. If we say that progress in adjustment was an effect of his subjective activity developing a given content of experience, and that the nurse, although she made it 'possible, facilitated it, yet remained altogether outside of it, we shall have a true conception of the relation of the teacher to adjustment.

Facilitation might have been carried by a teacher to greater lengths. He might have stimulated the curiosity of the boy by describing the butterfly while it was in the shadow. He might have pointed to this or that feature when it was in the light. He might have directed attention by skilful questioning. But he would have remained in the sphere of conditions and outside the sphere of adjustment, just as truly as the sun, the wind, or the nurse. She and he are only differentiated from the natural agents by the presence of purposiveness. That does not carry them inside the adjustment process which is a matter between the boy and this bit of his world. The truth is that pedagogy must divest the conception of teaching of the notion of direct agency in a way not too remotely analogous to that in which physics has divested the concept of force of it.

§12. The case is no wise different, though it is more difficult and complicated, if the master has to be himself the

mouthpiece and exponent of reality, as, for example, when he must employ the method of the lecture in a history-lesson. The focus in this case is a bit of the second world, that of civilisation, and the business of the teacher is to make himself as transparent as possible and get the truth into focus. He must, as we say, let the facts speak for themselves. He will not hesitate to stimulate adjustment, to direct and facilitate it, with all the art of which he is capable. It should be unobtrusive art, however. He must be ever on the alert to the intrinsic danger of the lecture that it may draw off the current of attention, setting towards adjustment, from the truth to the mere exponent of the truth. "The truth shall make you free," free of the master if true adjustment is achieved.

We may now turn to the question of moral education, or moral adjustment, as we prefer to call it. It certainly presents some complications, but it does not make untenable the position we have taken up. We shall try to show that it strengthens it. It may be urged that here, at all events, bipolarity is between pupil and master, and the moral relation between them is immediate and direct. The pupil is at one pole, the master at the other, and the problem of moral education is, in part at least, to bring the influence of the master to bear directly on the pupil. He is put for the time being in the position of the parent, and shares opportunity and responsibility with the latter; and surely the moral relation between parent and child is direct and immediate. It is bipolar and so, consequently, is the moral relation between teacher and pupil. Again, it may be urged, the primary instincts and their accompanying emotions such as fear, tender feeling, wonder, and the rest, together with those general instinctive tendencies imitation, suggestion, and sympathy, these operate directly between mind and mind, and the teacher, from the very prestige which his age and attainments give, will not only occupy a pole, but will be the most powerful of all occupants, the parent, perhaps, not excepted.

The answer is that all this is true but beside the mark. Let us take the two points in turn. The parental relation is, of course, immediate, and that of the teacher, in *loco parentis*, to the pupil is, so far, also immediate. And both parent and

teacher set out on the route to moral adjustment from the primary emotions which cluster about the relation. But they are only a point of departure. Moral adjustment is just the process of harnessing them to a non-personal pole, the pole of ideals to which the personal emotions are, if adjustment proceeds, gradually transferred. There are parents who are inclined, at any rate, to postpone the transfer : they like to keep their children or their pupils is that they may forge their ence on themselves. It is common knowledge that, so far as they succeed, they hinder adjustment. And the result is often a tragedy : a boy or girl stranded for lack of a moral pole. There are teachers equally shortsighted. Their schools or classes are shaped by rule and law, it may be, indeed, tempered by personal affection and reverence. None the less is it true that their pupils are, so far as moral adjustment is concerned, without a pole, unless they have found it in spite of their teachers. Fortunately such parents and teachers are in a minority. The majority realise that the only hope for their children or their pupils is that they must forge their own moral anchor. Their ultimate pole is the moral order, and neither mother, father, nor teacher.

We arrive at the same conclusion when we consider the personal nature of the primary emotions and those general instinctive reactions and responses which, following McDougall, we may include under the conception of imitation. They imply personal bi-polarity, of course, and the teacher at a pole of particular prestige. But is it not true that at this stage we should be wrong in applying the conception of morality ? Is not this form of bi-polarity the one we have in common with animals ? Is not morality just the structure we erect on this instinctive and innate foundation ? The teacher is polar to the pupil at this level. But the structure rises slowly but surely in proportion as he succeeds in transferring these motive forces from himself to the ideals which are, or should be, his own moral pole. He must, if we are right, get out of the way of adjustment here as in the more purely cognitive sphere. McDougall's chapter on the " Advance to a Higher Plane " should be read.⁵¹ It brings out very clearly, as, indeed, practically every theory

⁵¹ Social Psychology, Chapter VIII

of ethical doctrine does, that the pole in adjustment must be within the self. So long as adjustment is to external authority—a parent's, a teacher's, a code of laws, the prescriptions of a church, whatever it may be—so long is it artificial, and essentially non-moral. It must be adjustment to moral ideals, self-adopted, the pole about which the self-regarding sentiment is organised. The development of this view will be attempted in the third book.

We shall, therefore, refuse to accept polarity for the teacher either in the natural, the social, or the moral worlds, except that which is common to him and every other person or thing. We shall ask him to walk side by side with his pupils, to face the pole with them, and, as occasion arises, as it will more often than not, to regard himself as an obstacle to their true adjustment, and get out of the way. The momentary polarity which he assumes when he faces about in anger or in exhortation, we shall ask him to shake off as soon as possible. We think he will be glad of the relief. He will certainly be in a stronger position professionally, comparable with that of a physician. He will not need to fear lack of inspiration. That will come from the goal ahead and the young fellows marching along by his side. If he needs guidance he will find it in the attitude which Browning assigned to David before the King, in his immortal poem "Saul." The fervour of his song, the inspiration of his words, the love that fills his heart to overflowing, do not break the restraint, do not bridge the detachment he maintains, so that the soul of the King may awake, and by the sole virtue of its own resurrected power resume the life it has lost. A little child shall lead them.

§13. We shall not be concerned directly with educational values in this essay. They are constituted by the conception of adjustment as the end of schooling. A school subject or activity, and the school itself as a formative agency, will be considered in their relation to life in the three-fold order. Value will be found in the measure of contribution to that life. For the same reason we shall not be concerned directly with the disciplinary effect of subjects and agencies. We shall avoid looking either at them or at the special powers and activities they evoke independently and, so to say, atomistically. As bye-products of adjustment they

might well form the subject of a separate essay. Nor shall we be concerned, save incidentally, with questions of method. That topic has been exhaustingly dealt with; perhaps, indeed, in too much detail. One general principle of procedure we propose to adhere to may be noted. It is the one followed so far. The general idea of what is involved in adjustment to each order will first be given; then, in each succeeding chapter, the idea will be developed so as to make it more articulate, precise, and complete. Also, the account of each order and that of adjustment to it will proceed, as far as possible, *pari passu*, though it will be necessary to depart somewhat from this plan in the second book, as is explained in the preliminary chapter. At the end of the essay we hope it will be clear that a liberal education—the right and privilege of all—means free and active membership of a single universe of reality, and that this implies adjustment to the three orders which reveal and express it.

BOOK I. THE WORLD OF NATURE

CHAPTER I PRELIMINARIES

§1. In this book adjustment to the world of nature is to be the topic, and we have chosen the word exploration to distinguish the essence of the process on its cognitive side. The original motive of exploration is the instinct of curiosity, a product of evolution of obvious biological value, for the life of the primitive man must often have depended on this quality of alertness. The problem of adjustment is then, on its objective and cognitive side, such exploration, extensive and intensive, as the capabilities of the individual and the opportunities afforded him, make possible. On its subjective and æsthetic side, it is development of the instinct of curiosity, a development which under favourable conditions may culminate in the scientific spirit or sentiment. Before considering the stages of such adjustment, cognitive and æsthetic, the data which supply a point of departure, a basis on which to build, must be examined. They have been referred to in a summary way in the introduction. Here we must look at them more closely.

At the very outset we must clear up what is meant by the statement that the physical world is, for the young child as for the mature adult, a fact of presentation. Presentation, in its technical psychological sense, means a modification of consciousness by virtue of which we are made aware of something. It may be simple or complex, the sound of rain on the roof or the conception of gravitation. What, then, do we mean when we say that the physical world is a fact of presentation? We do not mean, of course, that it exists only in consciousness. Its objective existence is not in question. On the other hand, the statement does mean the rejection of the unreflective assumption of the man in the street who takes consciousness and the physical world to be two

things, each with its own separate existence apart from the other, and only brought into relation in a mysterious but mechanical way by the impinging of the latter and the reaction of the former. The question carries us into fairly deep water at once. We must find a firm foothold, however, or progress in theory and practice will be blind and stumbling. The foothold we need is the conception of the world as a fact of experience. This simply means, that just because it is a fact of experience, it implies a subject as well as an object. It is a whole or unity which implies these two poles. Remove either of them and the conception of experience disappears. What either may be in itself we cannot know, and guessing will not help to a solution of the problem. Philosophy has been speculating about one or other, the nature of the ego or the nature of things-in-themselves, ever since reflection awoke, and will go on doing so as long as life lasts. It is the riddle of the universe. But the fact of the universe we must start out from is that as soon as experience begins we have these two poles, however they may be described. There is not, for each of us, the self and the physical environment which have somehow to be brought together. They are united in our experience as soon as that experience begins. In this sense adjustment is not the end of education; it is the beginning. All we have to do is to develop a unity which we find: a unity which is a miracle, an insoluble riddle, perhaps, but yet a fact.

Anyone, indeed, who argued against education as, in part, adjustment to the physical world—if there were anyone so foolish—would have to prove that atrophy of a given function, the relation of the subject to nature, was a good thing. He could not get away from the fact of adjustment. He could only urge that it be left alone like a necessary evil, if there is such a thing. The idea of an original duality which has to be bridged, is not confined to the man in the street. It is the working conception, like that of a coloured resonant universe, which we all harbour during nine-tenths of our waking existence. It crops up sometimes, indeed frequently, in discussions of points in the theory of education. It is common, for example, to read that the primary emotion of wonder should be made an incentive to nature-study, a means of bridging the gap. If the gap is a reality to the theorist

we have a palpable *husteron-proteron*, the cart before the horse. Nature-study is a necessity arising out of the nature of experience (unless atrophy is our aim) and wonder is an emotional effect or product of it. Of course wonder may be a stimulus to further adjustment, but it is not a prior cause originating adjustment. Even curiosity, the instinct paired with the emotion of wonder,¹ follows, i.e., arises out of, the adjustment into which a man is born. It is originally consequent not antecedent; though it may, of course, be antecedent to further adjustment. It is highly important for a theory of education to start out from precise data; and this unity of ego and world, subject and object, in experience is fundamental.

That unity is, then, our starting point. There is an immediate step onward from it which must be taken. Some people find it a difficulty; although it is, perhaps, hardly a deduction but only the same truth in a different light. It is the continuity of the self and its physical environment. We do not mean the continuity of the two which air and ether mediate by means of the senses. That is physical continuity and we are referring to the continuity of experience which is spiritual. We need not trouble about the difficult problem of the relation of matter and mind. We must, however, grasp the fact of the continuity of subject and environment in experience. A star in the heavens when it enters experience—is seen—becomes an element, a factor, a feature of conscious process. In that sense (a very real one) matter and mind are bridged and distance is annihilated. The point is important for our theory because adjustment means neither more nor less than developing the casual and transient continuity of subject and star into something more coherent and stable. And this is secured when it is woven into the closer organic texture of scientific knowledge and when it becomes of deeper emotional and sentimental import. We must get a firm grip of this notion of development, of continuity in two dimensions: an extension at the boundaries or edges of experience and an increase in cognitive and emotional complexity. It follows that we must re-adjust the ordinary meaning of environment. It is nothing alien and inde-

¹ McDougall, Social Psychology, p. 57-59.

pendent in a mechanical relation of action and reaction. It is that, of course, so far as we are ourselves material. But it is not alien and external so far as we are conscious spiritual beings. In experience it is continuous with the self. In the cognitive continuum (the term which Dr. Ward has made familiar) which mediates a knowledge of the external world, in the wonder, awe, and enthusiasm which suffuse the continuum, and in the curiosity which becomes a permanent conative bent, the duality of subject and environment disappears.

§2. We must now look a little more closely at the conception of individuality. Usually it means that each person is unique by virtue of his physical characteristics, including what we call temperament—ultimately, perhaps, a physical matter—his innate proclivities of mind—cognitive, æsthetic, and volitional—and his character which is the outcome of the reaction of these and circumstances. But uniqueness is still more fundamental. The datum that the world of nature, as each of us knows it, is a unity of experience with its subjective and objective poles, means that this world is unique for each of us. For the subject is not passive. Adjustment is a product of two factors, the subjective and the objective. So that to the conception of individuality as a result of physical characteristics, innate proclivities, and character, we must add that the whole “choir of heaven and furniture of earth” takes on an unique quality in individual experience. It would be true to say that no two people have the same cognitive, æsthetic, or conative experience. Our point here, however, is that the physical world is unique for each of us. From the very beginning of experience nature is different for every one of us. So many men so many worlds, is an inevitable inference from experience as a unity of subject and object.

We might at first sight be inclined to conclude from this fact of fundamental and far-reaching individuality that any attempt to promote adjustment by organising pupils in groups or classes, must be mistaken and futile. That would be fallacious, however, because it overlooks the fact that adjustment is to three worlds which objectively are the same for all. The truth about nature, the social order, and morality is universal truth, although for each of us it takes

on individual colour and import. The aim of adjustment is, indeed, in this very sense twofold. We want it to be adjustment to the universal, but we want it also to retain the hall-mark of individuality from which it starts. We here come across a principle of first-rate importance for both the theory and practice of education. We need not hesitate to present the same truth to a group of pupils or to shape a common disciplinary environment for them, just because they must be adjusted to three common worlds, common that is, objectively. Only we must ever be on the alert to see that adjustment to each is individual. Universal truth with the hall-mark of individual appropriation is the goal. Each aspect is equally vital; but the one we are most likely to forget and not leave room for, is individuality of adjustment. That is why we are emphasising it.

It must be remembered, too, that there is a considerable amount of what may be called formal identity in the midst of real individual difference; and this makes common treatment possible and effective. There are, first, the forms of sense and thought—we shall refer to them in a moment—and instinctive dispositions which are generic in character. They are innate because they are the product of evolution during the process of adjustment common to men since the dawn of human life. Secondly, the process of development, cognitive, emotional, and volitional, follows much the same general lines and stages in normal individuals. Thirdly, there is the tendency of presentations, differing from individual to individual, to acquire a common currency value, a common meaning or reference. Their differences are sunk in the fact that they become common signs or tokens. A bark stands for a dog, a face for a friend, a bell for a tramcar and the beginning of the day's work, a placard for a revolution, a word for a system of philosophy, and so on, through the long range of associative synthesis. These presentations become like current coins: we no longer attend to their individual diversity. Value in the one case and objective reference in the other is what we attend to. Fourthly, and perhaps most important of all (though it is but a particular case of the general principle just mentioned) words, though they are linked with different individual experiences and the apperceptive systems which develop out of them, acquire

identity of reference; and since language is the great means of bridging individuality, individual differences of meaning tend to disappear. Words become counters.

The views of Principal Bateson on this question of individual diversity and its relation to scientific education call for serious consideration, for he speaks as one of the first living authorities on biology. He has given vigorous utterance to them in an essay entitled "The Place of Science in Education."² He is somewhat sceptical of possibilities. Setting out from "the one hard, physiological fact that should form the foundation of all educational schemes: the congenital diversity of the individual types,"³ he goes on to say: "Education has too long been regarded as a kind of cookery: put in such and such ingredients in given proportions and a definite product will emerge. But living things have not the uniformity which this theory of education assumes. Our population is a medley of many kinds which will continue heterogeneous, to whatever system of education they are submitted, just as various types of animals maintain their several characteristics though nourished on identical food, or as you may see various sorts of apples remaining perfectly distinct though grafted on the same stock. Their diversity is congenital."⁴ We may record this pronouncement as confirming individuality, while noting that it assumes the application of biological truth in the sphere of mental development. He is of opinion that "there is no general neglect to provide teaching of natural science . . . probably no boy able to afford a good secondary school, certainly none able to proceed to a university, is debarred from scientific teaching merely because it does not 'form an integral part of the curriculum.'"⁵ This opinion is not confirmed by the Committee appointed to inquire into the position of Natural Science in the educational system of Great Britain. Its report says: "We think it manifest that so far there has been no general and sufficient recognition of Science as an essential part of the curriculum for all boys in the Public Schools."⁶ Probably the discrepancy is apparent

² Cambridge Essays on Education, Chapter VII.

³ Ibid, p. 124.

⁴ Ibid, pp. 124, 125.

⁵ Ibid, p. 130.

⁶ Report, p. 13.

rather than real, for Bateson goes on himself to say : " The trouble is not that science is not taught in the schools, but that in schools of the highest type, with certain exceptions, the young boys are not offered it."⁷

The last point is, however, a digression. What we are glad to note is that congenital diversity does not prevent Bateson from urging that what we have called adjustment to the first world is essential for all. We must be allowed to quote him at length. " Realising the determinism which modern biological knowledge has compelled us to accept, we suspect that the power of education to modify the destinies of individuals is relatively small. Abrogating larger hopes we recognise education in its two scientific aspects, as a selective agency, but equally as a provision of opportunity. In view, therefore, of the congenital diversity of the individual types, that provision should be as diverse and manifold as possible, and the very first essential in an adequate scheme of education is that to the minds of the young something of everything should be offered, some part of all the kinds of intellectual sustenance in which the minds of men have grown and rejoiced. That should be the ideal. Nothing of varied stimulus or attraction that can be offered should be withheld. So only will the young mind discover its aptitudes and powers. This ideal education should bring all into contact with *beauty* as seen first in literature, ancient and modern, with the great models of art and the patterns of nobility of thought and conduct; and no less should it show to all the *truth* of the natural world, the changeless systems of the universe, as revealed in astronomy or in chemistry, something too of the truth about life, what we animals really are, what our place and what our powers, a truth ungarbled whether by prudery or mysticism."⁸

Here we have the case forcibly and eloquently put. It supports the view we are asserting. There is the individual in his hereditary and epistemological uniqueness, but he must be adjusted to the world in its universality. How far that adjustment is to be carried, if education " as a selective agency " reveals congenital incapacity to go beyond a certain point, is another matter. Adjustment in some measure

⁷ Ibid, p. 132.

⁸ Ibid, pp. 132, 133.

is necessary for all and we are sanguine enough to believe that the momentum gained will never be wholly dissipated. And it is to be remembered that adjustment to the first world implies adjustment to the second also. For the second world, civilisation, is a fabric into which scientific conceptions and achievements are becoming ever more and more closely interwoven. History and literature, to say nothing of economic and social relationships, must inevitably reflect progress in the adjustment of man, through science, to his physical environment. Tennyson, Browning, and Wordsworth cannot be appreciated without some acquaintance with the development of modern scientific thought.

§3. We come now to the phenomenon of change, of dynamic quality, in the experience of the individual. What has just been said refers to differences between one individual and another. Here we have to take note of the fundamental characteristic of mobility and change in the conscious process or experience of the individual himself, and see what its significance is for the task of adjustment. James has treated it in his arresting way in the well-known chapter on the stream of thought.⁹ Bergson has made it the point of departure for a whole philosophy of change.¹⁰ Whatever may be the final verdict on the philosophic theory, the psychological doctrine is now a commonplace. To put the latter metaphorically, it asserts that no two sections of the stream of consciousness are alike. Experience never repeats itself. But that bald statement would not be enough; for a mechanistic conception of conscious process, that of the same ultimate elements—the “ideas” of Locke—corresponding to the atoms of the physicist, combining, being disintegrated, and re-uniting in ever-new combinations, would not be inconsistent with it. But no one now maintains this atomistic theory of experience, and to the bald conception of change must be added that of the continuum of presentations within which it takes place. It is in this continuum that no two like phases recur. There must be added also that the effect of past process is never obliterated: potentially at all events, and probably actually, if we think of the continuum as the

⁹ *Principles of Psychology*, Vol. I, Chap. IX.

¹⁰ *Creative Education*, pp. 1-8. See also Wildon Carr, *The Philosophy of Change*.

whole character, any moment of experience is the effect of all our accumulated experience responding to some present stimulus. James says : "Our mental reaction on every given thing is really a resultant of our experience of the whole world up to that date."¹¹ Bergson's expression of the same truth is as follows : "Doubtless we think with only a small part of our past, but it is with our entire past, including the original bent of our soul, that we desire, will and act."¹² And again : "Each of our states . . . is an original moment in a no less original history."¹³

We must, however, be on our guard against a fallacious conclusion from this phenomenon of change in experience, similar to the one from individuality referred to above. We might infer an uncontrollable chaos of experience, defeating any attempt at stable adjustment to the first world, or indeed to any objective world. Two considerations reveal the fallacy. One is the currency value of presentations to which we have referred already. The same presentation, the same content of consciousness, never recurs, but different presentations can, and do, refer to the same objective fact. Whether the same objective fact ever recurs, whether, for example, our first world ever presents the same phase of objective reality twice, is a question which Bergson has set men thinking about. It is a profound philosophical conclusion which the doctrine of creative evolution seeks to establish, and the keen student will no doubt follow up the question and form his own opinion. Whatever ultimate import it may have for a theory of education, the problem of actual adjustment to the first world is not made impossible by it. Even if it is true, we shall not get lost in the physical environment. Objective flux may be an ultimate fact, but it is hardly likely to be fast enough to endanger adjustment. We may safely say, then, that changing presentations are currency which mediate reference to a stable environment. The second consideration is a consequence of the cumulative effect of experience. It changes but not capriciously. Conscious process becomes organised. Apperceptive and emotional systems emerge in consciousness. We never look twice with the same mental

¹¹ Ibid, Vol. I, p. 234.

¹² Ibid, pp. 5, 6.

¹³ Ibid, p. 7.

equipment at an objective fact, or feel twice in the same way about it, but we steady down, as experience becomes more and more organised, into recurrent generic ways of looking and feeling. There are thus both objective and subjective checks on the mobility and change of momentary experience.

We have, then, the physical environment, as a content of consciousness, as material which conscious process elaborates, for ever renewing itself, for ever presenting new aspects from the dawn of life to the sunset of death. Adjustment is ceaseless, although it may be momentary and casual. It may be swamped by more urgent elements of experience : organic sensations, hopes and anxieties, the calls of art, or philosophic speculation. But the world of nature will emerge from time to time and claim the attention of the most preoccupied of us. We are enrolled, willy-nilly, in the *real-schule*, the school of nature, and we never get our *exeat*, so long as conscious life lasts. The world which is, perhaps, first as an order of reality, in the life-history of all of us, is the first theatre of the ego. Futile controversy about the relative values of what have been unfortunately named realistic education and humanistic education, seems to have overlooked that elementary fact. Light and shadow, rain and drought, the procession of the hours, the panorama of the seasons, are given to us in the endless variety of presentation, whether they come with the sting of immediate perception, or pictorially, or through the suggestive agency of the written or spoken word. Early impulses may become atrophied, congenital bias may, as Bateson asserts, find more congenial theatres, but the school of nature keeps no holidays ; and within the curriculum of experience adjustment to the physical environment is included as a fact.

Adjustment of this unregulated kind, mediated by constant change of presentations is thus for ever being achieved. There is a tendency to distinguish it from the regulated kind which we call education or schooling. And no doubt the distinction is useful and necessary for the organisation of theory and practice. It is, however, a purely formal distinction. In the real business of adjustment there is no break of continuity between unregulated and regulated experience. And it is clear that the latter must conform in its regulation to the data of the former. In other words formal education

must take up and carry on the process of adjustment to the first world which it finds to be a datum of experience. It must make the attempt. Nothing is lost by it. Much is gained if the attempt succeeds. For congenital bias away from nature will gain compensation, sanity, and balance, from occasional appreciative glances at this world waiting to be wooed. Bias towards it may, if rationally guided, carry the individual into the enchanting fields of natural science. In the latter case compensation, the check on toppling over, is to be sought in an introduction to the second world. Literature and history are complementary to nature study and science. Their opposition exists only in the minds of theorists. Balanced adjustment finds room for both just because the individual is a member of both worlds.

To return to adjustment to the first, however, we have to ask how this fact of change in presentations can be harnessed to the end. We shall come down to detail in the two following chapters. Here our concern is the general character of the process. It would seem that we must start out from the fact of change, the flitting of attention in the young from presentation to presentation, much as the butterfly flits from flower to flower. Adjustment must be extensive rather than intensive. It is not devoid of intensity even early : the why emerges soon enough, but depth is not a characteristic of the first phases of interest. Equally important is the point that the whole personally must be adjusted. *Æsthetic* and conative activity are to be stimulated as well as cognitive : all three are essential. It is experience on its dynamic side and in its undivided front which here faces us. We must keep adjustment on the move as a whole, as a unity. Later on it will consist, first, in collecting and classifying, then in searching for grounds of classification, and later still, for causal relations. But these stages involve a turning back upon presentations. The first adjustment is at their growing edges : it is by extension rather than by intension. It is not by way of the intellect but by way of the whole personality.

§4. We come now to another point. Schooling is not a new beginning, a fresh start. It is the bringing of external influences to bear on a process already begun and carried, through the reaction of individual and environment, subject and object, to a certain point dependent on age and circum-

stances. The re-action has gone on within experience: it has been a modification of the continuum of mental process of which experience consists, and not a bringing of two things, externally related, together, because they have been one, in experience, from the beginning of conscious life. We have now to ask how far adjustment has been carried, from what data schooling can start out. We are not concerned with individual differences of mental content, dealt with in such an essay as Stanley Hall's on "The Contents of Children's Minds on entering School."¹⁴ It would, of course, be extremely valuable to know them and experimental psychology and comparative child-study, have here a fruitful field of investigation. If we had a ready and reliable method of getting at the individual content of experience when a child was admitted to school, it would obviously facilitate classification and the organisation of the means and machinery of early adjustment. That, however, is a specific problem not before us. Our question is the general features of the organisation of adjustment when schooling begins. According to what broad lines, what general plan, has adjustment of the first world been so far carried?

If we touch, at this point, on philosophic and psychological theory, the justification is not that details of directed adjustment will be immediately affected. Our attitude, however, will be, or ought to be; and attitude is more important than detail. If we find that the subject has been playing a vital part in the process from the beginning, we shall be more likely to realise the point of view taken up in this essay that the subject, the individual, must carry it through to the end. And Kant does seem to have established, once and for all, this synthetic activity in the elaboration of experience of the physical world. Since his day psychologists have placed the first principle of unity within experience. Some, e.g. Herbart, have found it within the play of presentations themselves. Others, e.g., Ward, have found it in the activity of the subject of presentations—a view we accept. The student will form his own conclusion. He will find synthetic activity in consciousness wherever he is inclined to fix it. An active ego, as *fons et origo* of synthesis may not appeal to him,

¹⁴ Aspects of Child Life and Education, pp. 1-52. Reference by Rusk in Experimental Education, p. 78.

being a postulate of philosophy, and not a hypothesis of science whose validity can be tested. On the other hand philosophy and religion may clinch it for him. He will in any case be able to assume synthetic activity as a fact. And the inference from the fact, indeed the mere explication of it, implies the constructive co-operation of the subject in the organisation of the world of nature. It is the key to adjustment and consequently the key to schooling. The conception of the subject—pure or empirical—as, in part, that is, as regards its form, the creator of his world as he knows it, as it exists for him, must be the starting point for that directed adjustment of which schooling consists. This power of construction, developed by social intercourse, is just what gives man his pre-eminence in the universe, whether we regard it as his *à priori*, or, as most of us would think, as a product of evolution.

What, now, are the broad features of this adjustment? We may distinguish three. In the first place, it gives him the world ordered in space. We do not, of course, mean order with geometrical exactness. That is a final stage of adjustment which few reach. What is meant is that this world will be a spatial continuum within which a certain amount of rough organisation, as to distance and direction, will have been achieved. Up and down, left and right, near and far, will be more or less familiar differentiations in a given whole of extensity. How they have been made is a matter for psychology. We may ask how the spatial continuity, in which they are differentiated, is itself given. The answer is that it is an original datum of experience. That step in adjustment, we may say vaguely and generally, is one taken by nature itself; by which we mean not external nature, but the natural constitution of the human mind, and probably the mind of the animals nearest to man. It is not, as we have just suggested, space continuous and infinite which is an original datum of experience. But presentations of the external world are given in the original form or garb of extensity. Students of Kant will remember that he took space to be a contribution of the subject to the phenomena of nature. It was for him an *à priori* form of sense, a humanly-originating medium within which, in some inexplicable and ultimate way, the objective manifold was unified. So that

the phenomenal world owed its ordering in space to the *à priori* constitution of the mind of man. Bergson seems to maintain this view. He writes : " What the Transcendental *Æsthetic* of Kant appears to have established once for all is that extension is not a material attribute of the same kind as others. . . . Supposing even that it is given empirically by sight and touch (and Kant has not questioned the fact) there is this about it that is remarkable that our mind, speculating on it with its own powers alone, cuts out in it, *à priori*, figures whose properties determine *à priori*: experience, with which we have not kept in touch, yet follows us through the infinite complications of our reasonings and invariably justifies them."¹⁵. We may quote Karl Pearson to the same effect : " The mystery of space, whether it be the finite space of perception or the infinite space of conception, lies in, and not outside, each human consciousness."¹⁶ Others hold the opposite view of the objectivity of space. James calls the Kantian view mythological.¹⁷

Ward says : " That the knowledge of space is *à priori* in the epistemological sense it is no concern of the psychologist either to assert or to deny."¹⁸ James,¹⁹ Ward,²⁰ Stout,²¹ and Bergson,²² are all agreed, however, that extensity is an original quality of certain sensations, organic, visual, and tactual. Progress in the development of this original spatial continuum is made possible by means of local signs and motor sensations. We are only concerned to note that that development goes on naturally in the normal individual. So that adjustment to the spatial order in experience, mediated by the activity of the subject, can be taken as a datum of schooling on which further adjustment in respect of direction, distance, and geometrical relations can be based.

In the second place, the world as a world of things with their attributes or qualities, can be assumed. Again, we must be careful to note that by this is not meant that knowledge of specific qualities of things—the adjustment sought

¹⁵ *Creative Evolution*, p. 215.

¹⁶ *Grammar of Science*, p. 159.

¹⁷ *Principles of Psychology*, Vol. II, p. 275.

¹⁸ *Psychological Principles*, p. 144.

¹⁹ *Op. cit.*, Vol. II, pp. 134-144.

²⁰ *Op. cit.*, pp. 145-147.

²¹ *Manual of Psychology*, pp. 344-355.

²² *Op. cit.*, p. 213.

in object-lessons—can be assumed, any more than precise spatial differentiations. All that is meant is that the world, in its general structure as a world of things possessing qualities, is a datum when schooling begins. This is another result of the synthetic activity of mind. It is explained by psychology as the projection of the experience of the self as an abiding unity amid diversity of presentations. Things get their unity as a projection of the unity of the self. Hence the animistic view of nature characteristic of the young.

Thirdly, adjustment will have gone some way by the same anthropomorphic path in unifying things under the idea of reaction. The idea of cause and effect will, of course, only be there in a vague embryonic form, the genesis of which is explained psychologically as the projection of individual experience of the self as agent and patient. We may note again the Kantian view that these adjustments are a result of *à priori* categories of substance and attribute, cause and effect. That is the static philosophic standpoint. The scientific view would be that, so far as there may be any innate disposition so to synthesise experience, it is to be explained as a product of evolution. That is the Bergsonian standpoint. "Intellect and matter have progressively adapted themselves one to the other to attain at last a common form."²³

Our point is that whatever the philosophic or scientific explanation may be, we can start out on the business of directing adjustment to the first world, with much work already accomplished for us: a world of things, ordered in space, and beginning to be linked by relations of reaction. We can assume, too, that it is a congenial theatre, made so by springs of activity constant, if intermittent and fragmentary as regards direction, and fed by a strong instinct of curiosity.²⁴ Natural powers and bent, whatever their philosophic meaning and genesis, have secured orientation and momentum which it is our business to develop and direct. It may be well to note, too, that real adjustment means giving as well as taking, receptivity as well as activity, being created as well as creating. We have laid stress on the synthetic activity of the subject, because this fundamental factor in

²³ Op. cit., p. 217.

²⁴ Cf. Von Wyss in *Broad Lines in Science Teaching*, p. 25.

adjustment has not, as we think, received the recognition it ought to receive in educational theory. We hasten to add, however, that adjustment implies also the absorption of the self in its objective content, in the not-self. The objective attitude, that of the gardener, engineer, or scientist, is the one that gives life its joy and zest. We are all enrolled inevitably in the *real schule* but there are endless degrees in the extent to which we profit. We must be assimilated as well as assimilate, in some such way as the individuality of the artist is taken up into the product of his art. Presentation implies the laying of the object before the subject. Adjustment implies the subject going over into, being fused with, the object. We find ourselves in losing ourselves.

§5. Having now some idea of the data which may be assumed at starting, the next question is the end to be achieved, or the aim, as we had better call it, since of finality of adjustment there is none. Two directions should be clearly distinguished, for failure to do so seems to lead to confusion and fruitless controversy. We must keep quite clear adjustment (*a*) to the world of nature and (*b*) to natural science which is the sum-total of organised knowledge about that world. Of course adjustment to each can only be partial. The world is too big to be compassed in the life of man, even mostly at second hand through records and representations; and science, even for the professor giving his whole life to it, must be departmental. And we are concerned with the average boy or girl with average opportunities. Granted the obvious limits, however, we ought to keep clear in our minds nature itself and the science of it. The latter belongs to our second world, civilisation. It is a social possession. It is part of the spiritual fabric which the mind of man has built up. The first world itself, as the fabric of inorganic and organic forms, is a different order of reality. Adjustment to science is not necessarily adjustment to that order; and we may have adjustment to that order without science. The shepherd on the hills, the fisherman on the sea, the labourer in the fields, may be at one with nature, linked to it by bonds of sympathy and intuition which the scientist of profoundest knowledge has never felt. Which form of adjustment should schooling mediate, that of the

child of nature, pregnant perhaps with celestial fire, though inarticulate, or that of the scientist, penetrating with intellectual insight the very secrets of the world? The question provides its own answer. We want both in interplay. Experience shows, however, that schooling may incline in one or other direction unduly, and so miss that composite adjustment we need. The enthusiastic master may envisage law, hypothesis, and formula with such obsession that they become ends in themselves, cut out, in their abstractness, from the concrete whole of reality. He may, on the other hand, flit from instance to instance, from specimen to specimen, and then from group to group, with the collector's impulse, accumulation and classification so obsessing him that the genesis of types and orders is neglected. Perhaps physics exhibits the former tendency and botany the latter. Physics may be divorced from the world as old-fashioned botany was from science in its dynamic aspect. In neither case does schooling mediate the adjustment we want. The danger of getting out of touch with reality is the greater: there is little danger now of even school science halting at the merely classificatory or static stage. In intellectual obsession, however, we may forget the necessary contact with reality.

Another way of forgetting it is more elusive, but none the less real. It lies in the obsession of scientific method. It is common to find it urged that the paramount reason for the inclusion of science in the curriculum of all schools, is, not adjustment to the world of nature, but the discipline of investigation. Accuracy of observation, rigour of inference, fearlessness and fidelity of verification, become more than the essentials of sound procedure. They become ends in themselves. This would seem to be the fallacy of looking at the individual, and the development of his powers and habits, too much in abstraction. The aim, so conceived, may become overshadowing, and the world, and adjustment to it, may disappear in the shadow. There is no question, of course, of the vital importance of such discipline. To make it primary and paramount seems, however, to be a consequence of a one-sided theory of education. The conception of education in its two-fold aspect of adjustment to both nature and science, finds a place for it, and one befitting its

essential importance; but it is derivative and secondary, not primary and paramount.

There is another obsession: by the method which we may describe as a combination of recapitulation and discovery. This may also tempt the enthusiast from the straight track of adjustment. There is no question, of course, that for some time and to some extent all the time, the pupil must follow in the footsteps of history and walk along the well-trodden path of discovery. But it seems possible to get the eyes so glued to the track that adjustment is arrested. It would seem, indeed, that the thing to be discovered could hardly be obscured in the process itself, and yet something like this often happens. The world of nature may be out of sight and even out of mind in the heuristic laboratory. We are inclined to go further than O'Shea, who said: "Nothing for mere formal discipline will be the watchword."²⁵ He was referring to subjects of the curriculum. The dictum may be extended to obsessions of method.

Let us carry this contrast between adjustment to Nature and adjustment to science a little further. The first we feel and enjoy with the whole of our being and especially with our aesthetic and conative selves. We are in warm living unity with the concrete world. When the rain beats on the cheek and the wind is stirring; when we walk in a wood or on the seashore, we are alive with the warmth of adjustment. It is real and arresting. It is a compound of nearness and intimacy with remoteness and aloofness. If it be asked why this sort of adjustment should be sought, the answer is that it gives us some of the best moments of experience. It carries us beyond ourselves: we are attuned to the infinite. In virtue, however, of its characteristic quality as aesthetic and conative rather than cognitive, the experience is and remains largely subjective and individualistic. It is not, however, markedly egoistic. It is that sense of communion with nature which Kant found in the consciousness of the beautiful and the sublime.

By contrast, adjustment to science—a matter of the intellect—is a colder experience. We do not offer all of ourselves as, so to say, an area for contact with reality. Moreover the

²⁵ *Education as Adjustment*, p. 291.

object of adjustment is usually cut out from its context in reality.²⁶ The feeling is one of power rather than communion, of conquest after exploration. It is more egoistic. Finally it is universalistic. There is an onward dynamic sweep about adjustment to scientific truth whereas in adjustment to the world of reality itself the subjective pole is the individual self. From that pole it may include the uttermost depths of reality, but the pole remains the individual. With science the pole is universal.

We need the union of both forms of adjustment. The blend of the shepherd's and the scientist's is the unity to be sought: power and communion, abstract truth carried over into concrete reality, intellectual insight suffused with emotional warmth, particularity with universality. A comparison with the second world may help. Literature is the vehicle of thoughts and aspirations as science is the vehicle of laws and hypotheses. Even in literature we may get the vehicle rather than its content into focus. With science the danger is greater, because, being the expression of the first world in terms of the second, of matter in terms of spirit, it can be handled by itself. And as it gets more intensive and penetrating, further removed from the surface of phenomena, the tendency is almost inevitable. In being adjusted to laws and hypotheses it is easy to become divorced from the phenomenal world. The way to unity is by presenting scientific truth and the facts of the concrete world of reality which it formulates and synthesizes, in close conjunction. Sometimes the point of departure will be the fact, e.g., a piece of chalk thrown across the class room, or falling rain outside it, if gravitation is the topic; sometimes the truth, as when from the formula $S = \frac{1}{2}gt^2$ the height of a projectile dropped vertically, the time of flight being observed, is inferred. The doctrine of psychic fringes is the theoretical basis of union. Sometimes the phenomenon will be in focus and the law in the margin or fringe; sometimes vice-versa. There will be interplay in experience if there is interplay in exposition. The sign-posts of divergent adjustment are only a warning; the paths can be made convergent if the teacher is alert. One-sided obsession is the danger.

²⁶ Cf. Bergson, Creative Evolution, p. 32.

§6. This distinction between adjustment to nature and adjustment to science which gives us command over it, is but a pedagogic application of that which Kant drew between perception and conception. "Perception without conception is blind," he wrote, and "conception without perception is empty,"²⁷ and he was at considerable pains to show how perceptions might be "brought to conceptions."²⁸ Limited as he was by the static ideas of mental functions or faculties then prevalent, he had to find a nexus for the two. Hence his elaborate theory of the schematism of the categories,²⁹ which found a nexus in imagination. The progress of psychology has given us a surer footing in the unity of conscious process. Experience being one, whether it is perceptual or conceptual, and the embryo of relations being given in the fringe which from the outset carries a percept beyond itself, we have no theoretical obstacle to surmount. The shepherd reading the stars may feel perception ringed about with suggestion, passing over into imaginative play.³⁰ So with our pupil. A moment will come, when, wearying of adding percept to percept, he will be ready for a glimpse at their bonds, a peep behind the continuum of phenomena. Adjustment, at first extensive, becomes intensive naturally, just because even the first percepts have a fringe—James' "feelings of tendency."³¹ In other words, the continuum of experience, at first active at its growing edges, will naturally, i.e., by its own inherent dynamic power, develop along a second dimension, that of depth.

All that the teacher has to do is to wait patiently, but on the alert, for the moment when his pupils are weary of flitting from instance to instance, and are ready to look behind them for the bonds of similars, and to note the absence of these in dissimilars. Adjustment will proceed in depth as naturally as it proceeded in breadth. The synthetic function of the ego, at this stage acting through relative suggestion,³² will become intensive instead of extensive. Once it does,

²⁷ Caird, Critical Philosophy of Kant, Vol. I, p 221.

²⁸ Ibid, Vol. I, p. 391.

²⁹ Ibid, Vol. I, Br. I, Chap. V.

³⁰ Cf. Baudet's delightful sketch entitled "Les Etoiles," in "Lettres de mon Moulin.

³¹ See p. 22.

³² Stout, "Analytic Psychology," Vol. II, Chap. VI.

there is no obstacle to progress ending in the grasp of law and hypothesis save the teacher's precipitancy born of enthusiasm. That enthusiasm may arrest the flow, and arrest of mental process is the condition of distaste, of withdrawal of attention.³³ The concept, so vivid to him, may be lifeless for his pupils when taken away from its perceptual setting. If his harvest is the negation of interest, he will only have himself to blame. At the nature-study stage he must be content with a fringe of conceptual relations, with a halo of implied meaning, felt rather than articulate. Out of it science will develop but it must not be forced. In the early stages the perceptual world must be kept in focus. At the science stage the arrangement may be reversed. Attention may be centred on law or science in its universal aspect, but never to the exclusion of instance and application. And the principle of continuity holds here as always, of course. That is to say, there is no sudden jump from perceptual to conceptual adjustment, and there should be no sudden change from the one standpoint to the other by the teacher. We may repeat, too, that the nexus should never be broken. The professor of physics or mathematics may pass from deduction to deduction, in vacuo, so to say. But, confident in the rigour of his logic, he knows he can pass from formula to fact whenever he may choose to do so, or, at any rate, that the transition is conceivable, even if he is not able to make it. That is, however, too rare an atmosphere for the schoolboy. He must maintain constant contact with the reality which the laws he dimly begins to comprehend help him to interpret. For him the second world of science must be in something more than tangential relation with the first world. It must ever renew its vitality by penetration.

We may now state summarily what adjustment to the first world means. There are three stages, two of which we have already implicitly recognised. The first is that which we have distinguished as mainly, though never wholly, extensive. We develop experience superficially in length and breadth, but as a whole or unity. This is the stage of nature study, geography (in the narrow sense), and physiography.

³³ Ward, "Psychological Principles," p. 263, footnote. Meiklejohn's rendering of these well-known principles is: "Thoughts without content are void: intuitions without conceptions, blind." (*Critique of Pure Reason*, p. 46.)

We shall consider this stage in some detail in the next chapter. The second is that which is mainly intensive, but which, as it advances, brings an ever-widening grasp of phenomena, extension by conquest rather than by accretion. This is the stage of science which we shall consider in detail in the third chapter. Dewey says: "Science is experience becoming rational."³⁴ It begins to become so when the "flash of similarity" unites elements previously experienced separately, e.g., falling rain and the curved path of a projectile. But this union is only the point of departure for science. It is only the synthesis of imagination, the hand-maid of the intellect. The latter must begin to manipulate the material which imagination brings together in consciousness. Causal relations must be discriminated: gravity must be extricated from the raindrop and the projectile. Then it must be carried to other instances, e.g., the running brook and the "coasting" cyclist. Another step is taken when quantitative conceptions are introduced: when, for example, the value of g is determined. By such degrees does experience become rational. It means also that when this stage of adjustment is reached the universal standpoint has been substituted for that of the individual. Science is a social product and possession. Finally we reach the third stage when we return to the unity we started out from, but now to envisage it, not as a superficial unity, but as a rational whole. Such conceptions as the conservation of energy and the theory of evolution enable us to do this.

Through these stages the individual must be taken if adjustment to the first world is to be complete: complete that is in principle, not of course in extent. Education ought not to be satisfied with less than this.

CHAPTER II

NATURE STUDY

§1. We take nature-study to include adjustment, by exploration and investigation, to (a) the phenomena of nature as presented in nature lessons, (b) the world as the home of man, the sphere of geography, and (c) the phenomena of earth, sea, and sky, the subject-matter of physiography. The first and third are direct adjustments to the first world; the second is indirect, being complicated by the introduction of another factor, human societies. All three are appropriate to the primary and the early part of the secondary stage of schooling. If the second, geography, be excluded, it may safely be said that this side of adjustment has, speaking generally, been neglected. Theory and practice have been enlightened and sound at the lower end of the primary course. The work of Froebel has, on the whole, given us real kindergartens, and Montessori is throwing fresh light on the same field. The science of the secondary school has been the subject of searching and fruitful investigation. But the gap between has remained dark; and it is to be feared that instrumental subjects such as reading, writing, the elements of language, and the rudiments of calculation, have usurped the place in the middle and upper classes of the preparatory school which rightly belongs to nature. This is true as a general criticism of state schools. Niceties of grammar and recurring decimals have received far more attention than the phenomena of nature. And it appears to be true of private preparatory schools also, for the Natural Science Committee recently reported that in the majority of 307 of such schools as replied to the Committee's questionnaire: "No provision is made for the teaching of science (including under this head nature study and practical measurements) as part of the regular curriculum,"¹ and that "it is much to be regretted that, as an introduction to more formal work in science, there should be no preliminary instruction in nature study, broadly inter-

¹ Report, p. 14.

preted, or in practical measurements."² Systematic adjustment to the first world is not a part of the schooling of either rich or poor, in the years between, say, eight and fourteen.

And yet nature should be the focus of the curriculum at the primary stage. Reasons are obvious. The kindergarten takes up the task which, as we have seen, is considerably advanced when schooling begins. Continuity demands that the gap to the stage of transition to science should be bridged systematically. The opaque world of nature is the appropriate theatre of activity at this stage: children are moved to explore it by curiosity and wonder. The "transparent world of minds" of which history, literature, and art are the vehicles comes more slowly and more gradually into focus. It only shares attention equally with the first world at the secondary stage. Yet the whole bent of the primary course is literary. Again, the subjects which tend to loom so largely, and to occupy independent positions, ought to be subsidiary and mainly to adjustment to nature. Drawing and oral description as fixing this adjustment, reading as extending it, arithmetic and manual work as giving command over it, recitation and singing as contributing æsthetic warmth to it, all fall properly into a subsidiary and instrumental relation. They stand in the same relation to adjustment to the second world, of course. Only the second world is less prominent at this stage. It is, indeed, necessary to reverse completely the common conception of the relation of nature study to other subjects at the primary stage. It is fundamental and they are secondary. It is imperative that they should not, in artificial abstraction, be allowed to elbow out real adjustment. "The study of nature," writes Professor Sadler, "should form an indispensable part of the early education of every child. But in present circumstances the early education of some of the most promising boys in the country is injured by a prematurely specialised curriculum, in which linguistic and mathematical training holds too large a place, with the result that the study of nature and manual training are unduly neglected."³ Nature should be the primary focus, the humanities being the secondary one, on which the instrumental training should converge, and from

² *Ibid.*, p. 14.

³ *Broad Lines in Science Teaching*, Introduction, pp. xxxviii, xxxix.

which it should radiate. The correlation of subjects derives meaning and purpose from the conception of adjustment. The objective unity of the curriculum should reflect and consolidate the unity of experience.

§2. We may now consider the departments of nature study in the order mentioned above. The first is direct exploration of the phenomena of nature. And we may conveniently begin with the selection of material. Principles rather than details will be our concern, for each school ought to express its own individuality in the subject-matter chosen. The first is so obvious that mention of it hardly seems called for. It is to nature itself, at first hand, that the pupils are to be adjusted, not to pictures, drawings, diagrams, and verbal descriptions. These have their place and purpose, but only as elucidatory of the real; and they should be, as far as possible, the production of the children themselves. Yet how often do verbalism and formalism appear where realism ought to be? The result is arrest of adjustment. On the other hand, it is not to be forgotten that from the beginning something more than the mere piling up of percepts is wanted. The animistic view of nature which is the child's, may, and should, be exploited, imagination set free and experience made intimate, by childish speculation. From the outset we must remember the subjective factor in adjustment, whereby the alien is made akin. And it may be checked by excess of material. The danger of nature at second hand is, however, greater. The first principle is adjustment to the real, and imagination, though allowed free flight round and about it, must return home again and alight where it set out, but with stronger wings. The story of the dew-drop must end on the grass or the flower.

It follows from the principle of realism that the area of selection is the immediate environment. And choice is, apparently and at first sight, free and unrestricted. Objectively, at all events, there is an unlimited field. The rose has no priority over the rounded pebble, nor the butterfly over the floating cloud. They stand out, each claiming attention, by virtue of their organic or inorganic relation to the whole background of nature. But as claimants they have to make good their relation to that other unity, the subject, and its prime mover, at the stage we are considering, is the in-

stinct of curiosity fed by the attendant emotion of wonder. The instinct is catholic, before it has begun to organise itself into an embryo sentiment; at least it is as nearly so as those congenital tendencies—the hard physiological fact which Bateson says we cannot escape—will permit. Nevertheless it falls within the sway of the general conditions of attention, and catholic though it may be potentially, actually we soon find interest more predominant in one direction than another, though never sustained long in any. In a word, the second principle we have to take account of is that involuntary attention is conditioned by relative novelty. Relative, it is to be noted, and not absolute; the relativity being determined, as the psychologists tell us, by the affinity of new presentations with previous experience. The petal of a rose is not novel in an absolute sense, if it links on by means of association with the idea of a pretty dress. So familiarised, it may for a moment or two occupy the focus of attention and adjustment may have advanced a stage.

A remote cloud may be drawn into the content of living and dynamic experience if its affinity with the roof of a house or the shady foliage of a tree emerges. In this sense curiosity and wonder begin at home, in the ego. Properly hitched on there, phenomena remote as the stars in space may form the living tissue of experience. McMurry rightly protests⁴ against the practice, now obsolescent, of filling children's nature books with the wonders of the world, collected from far and wide, for no reason save their uniqueness. All the same we need not go to the opposite extreme of what might be called a pronounced domestic bias in our search for material. A sea-gull, properly presented, need not be absolutely alien to children of the hinterland, nor a whaler's harpoon to those who live on temperate shores. The far-off in habitat is not necessarily remote from experience. Of course the criterion of reality remains pertinent. If we observe this condition and the others to be mentioned in a moment, we may accept the view that "since nature-study is essentially a particular attitude of mind, which generates a particular method of approach, it is absolutely unrestricted in its choice of material for study."⁵

⁴ Special Method in Elementary Science, p. 9.

⁵ Von Wyss, in Broad Lines in Science Teaching, p. 26.

Reality and relative novelty are principles founded in the nature of things, indeed, in the nature of the subject. The principle of utility seems, at first at all events, to stand on a different footing. It is artificial, the product of man's appetite or needs; especially as these have been developed by the conditions of modern civilisation. Hence the disrepute into which it has fallen. As a criterion of moral worth, its day is over. As a stimulus for scientific work it is in some quarters⁶ rejected with scorn. There appear to be two senses in which the term is understood. The first is associated with individual and material gain and so calls down contempt from the high-minded. The emphasis laid on the value of the applications of science to industry and to production arises from short-sighted ignorance in the opinion of the scientists themselves. Here are the views of the committee which recently enquired into the position of natural science in the educational system of Great Britain. "How necessary Science is in war, in defence and offence, we have learnt at a great price. How it contributes to the prosperity of industries and trade all are ready to admit. How valuable it may be in opening the mind, in training the judgment, in stirring the imagination and in cultivating a spirit of reverence, few have yet accepted in full faith. A nation thoroughly trained in scientific method and stirred with an enthusiasm for penetrating and understanding the secrets of nature, would no doubt reap a rich material harvest of comfort and prosperity, but its truest reward would be that it would be fitted by an ample and generous education to perform justly, skilfully and magnanimously the offices both private and public of peace and war."⁷

There is, however, another meaning of utility, the exact opposite of the one just referred to. It is the one so constantly emphasised by Dewey. Knowledge, education, and life are for him essentially of social import.⁸ The value of science lies in its utility, but this is social and spiritual rather than individual and material. It is probable that utility in this sense is never wholly absent as an incentive to scientific investigation. The astronomer making a survey of the

⁶ Cf. Bateson in Cambridge Essays on Education, p. 135.

⁷ Report, p. 7.

⁸ The School and the Child, pp. 64, 65, and Education and Democracy pp. 234-237 and *passim*.

heavens is seeking to extend the boundaries of knowledge, but in so doing, he is contributing to a common stock for common betterment. Utility in this finer sense we shall, of course, not hesitate to make a principle of selection for nature-study. And we may follow Dewey in his insistence on the "study of natural objects, processes and relations—in a human setting."⁹ This is to be taken to mean that, at the nature-study stage, natural phenomena, e.g. seeds, may be taught in their relation to human occupations, such as gardening and farming, and not necessarily in their relation to the subject-matter of botany. "Instead of the subject-matter belonging to a peculiar study called botany, it will then belong to life, and will find, moreover, its natural correlations with the facts of soil, animal life, and human relations."¹⁰ This is to bring nature-study very close to geography. It is to unite our first two worlds in teaching, at any rate at the start, as they are united in some way by all philosophies at the end. We may, then, select material for nature lessons by the human brand which it bears. It will be found that this criterion is far-reaching. It takes in insects, for example, as agents for the fertilisation of the flowers of man's gardens and fields. Since there is morality in all purposive activity, and natural objects are to be taught in their human setting, there may be adjustment to all three worlds in nature study.

§3. Our fourth principle may be first stated negatively. We are not to select material because it coheres logically. "The practice of choosing for a course of lessons objects of nature which belong to the same class, e.g., rodents, insects, composite flowers, cannot be condemned too strongly."¹¹ The reason is sound. These classes are scientific termini. They are late products of rational thought, whereas the child must travel along the track which leads to them. His immaturity does not square with the maturity of objective classification. His adjustment must proceed, generally at all events, by the stages which the history of scientific achievement has revealed. We may learn from history of course, and direct adjustment so as to avoid the pitfalls. Abortive efforts to bring the natural world within the sphere of law

⁹ *The School and the Child*, p. 64.

¹⁰ *Democracy and Education*, p. 235.

¹¹ *Von Wyss*, op. cit., p. 26.

may be avoided. We can, for instance, in dealing with the habits of plants and the colouring of insects, bring in the conception of adaptation to environment at an early stage, and so lay an empirical foundation for the hypothesis of evolution. But psychology and not logic must be our guide in the selection of material. Logic, exemplified in the body of coherent scientific doctrine, is the goal of adjustment, but the starting-point is the child.¹² The error of a logical as distinct from a psychological syllabus of nature study is a very common one, as any inspector who has to scrutinise schemes of lessons can testify. It is perhaps natural being an obsession of the enthusiast. The orderly array of phenomena is so arresting and satisfying to his scientific sentiment that he hurries to an attempt to bring his pupils up to his own level. They must envisage phenomena as he does, in scientific order. It is a vain hope. Phenomena will only become interwoven with the fabric of experience if they are consonant with the pupil's interests. And these are not logical and reflective, but emotional and active, at the stage we are considering. Let us quote Dewey again : "The necessary consequence is an isolation of science from significant experience. The pupil learns symbols without the key to their meaning. He acquires a technical body of information without ability to trace its connections with the objects and operations with which he is familiar—often he acquires simply a peculiar vocabulary."¹³ We are back at verbalism again instead of real adjustment. An observation of Herbart's is pertinent. "Do not," he says, "forget interest among interesting things; classify not objects but *conditions of mind*."¹⁴

We may, indeed, find very clear guidance in Herbart for nature-study. Distinguishing the "parts of knowledge and sympathy" he reduces them to

Knowledge.

Of the manifold,
Of its law,
Of its æsthetic relations.

Sympathy.

With humanity,
With society,
And the relation of both to
the Highest Being.¹⁵

¹² Cf. Dewey, *Essay on "The Child and the Environment,"* in the *School and the Child, and Democracy and Education*, pp. 256-261.

¹³ *Democracy and Education*, p. 257.

¹⁴ *Science of Education*, Felkin's Translation, p. 132.

¹⁵ *Ibid.*, p. 133.

We are concerned here with the parts of knowledge; the parts of sympathy would be specially apposite to history. Knowledge of the manifold is empirical, the result of merely contemplative observation. "However rich and vast nature may be, still so long as the mind receives it as it presents itself, it will only be more and more filled with the actual. The manifold in the mind is merely that of phenomena, just as the unity in it is merely that of their similarity and inter-connection. The mind's interest depends on the strength, variety, novelty, and varied succession of these phenomena."¹⁶ This expresses the standpoint in nature-study faithfully. It is particularly important, however, to emphasise a feature which in the statement appears relatively unimportant. The unity, it is said, is "merely that of their similarity and inter-connection." He means that it has not the constraint and necessity characteristic of the second "part" of knowledge, that of law. But we must always be on our guard against clean-cut divisions, corresponding to faculties, in psychology. This similarity and inter-connection is the embryo out of which the conception of law develops, and develops gradually and without a break. The idea of necessity is there, though inarticulate and unextricated, in the idea of connectedness. In other words speculative observation—Herbart's description of the mind's activity at the law stage—brings nothing new into being. It only gives point and articulateness to the harvest of contemplative observation. The practical point is that in our nature-lessons we need not be careful to keep strictly to contemplative observation. When speculation appears, as it assuredly will, it should be welcomed and encouraged. Even less discernible is any hard-and-fast line between æsthetic interest and the first and second forms. In fact an act of interest or observation which from one side is contemplative is from the other æsthetic. And one side reacts on and reinforces the other. It is these mental relations and connections, *i.e.*, the psychology of knowledge, rather than its objective, *i.e.*, logical bonds, which must be our guide in the drawing up of syllabuses. At the same time it is the manifold as such, that is, the phenomena of nature in their novelty and impressiveness, but also in their entirety, which we must

enviseage in nature lessons. Analysis, abstraction, the close examination of parts, is for a later stage, that of science. To quote von Wyss again : " As it [nature-study] represents the reaction of a young mind to the direct and immediate influence of an unexplored but *à priori* interesting environment, the more clearly the latter is shown as a complete whole, untouched by the analysis and generalisation of scientific thought, the more perfectly will the conditions of nature-study be fulfilled both in letter and spirit."¹⁷

Now we have been laying down principles somewhat boldly, perhaps dogmatically. It is high time to add that the evolution of a nature course is dependent equally on trial and experiment. In the introductory chapter we pointed out how futile it was to attempt to " apply " psychology and philosophy in any direct and immediate way to the solution of educational problems. And the evolution of a syllabus is one of the most important of them. We shall certainly do well to get principles clearly focussed in our minds, but we must be ready at every stage to modify and adapt them in accordance with the plain teaching of experience. The four we have considered, reality, relative novelty, utility in the sense of human application and amelioration, and psychological rather than logical coherence, cannot, it may safely be said, lead us far astray. But there is not only the difficulty of evolving a syllabus which will embody and reflect them all. That is not insurmountable. The real obstacle is the working out in detail. And to get over this, patient investigation, trial and experiment with alertness born of intuition and experience, are what we must depend upon. Here is a wide field for research which the training institutions for teachers can initiate but which must be carried to full fruition in the concrete normal situations which the ordinary schools afford. The educational journals should be the repository of results achieved : difficulties met and tried methods of surmounting them. So far the text-book of theory and practice has been, to far too limited an extent, the outcome of the school as a testing laboratory. Our doctrine has too rarely been thoroughly tried and proved.

§4. Keeping this need for testing principles constantly in mind, we may consider a fifth. It is urged that wholes,

¹⁷ Op. cit, p. 26.

individuals, types, are more appropriate than parts : a plant in its entirety for example, rather than roots, stems, leaves, flowers, and fruits, as organs taken abstractly and apart from their setting. There are some obvious advantages. The life of individual things is interesting to the child because it squares with his own experience and resulting animistic attitude towards nature. It offers a field for the play of his imagination and his emotions. Its congruity with his own experience makes adjustment real. It also affords a scheme, outline, or background in relation to which details, especially the fitting of organs to function, for example, roots to feeding, buds to growing, or even seeds to reproduction, acquire real meaning. In a word, life-history or biography is a natural method of approach, of adjustment, out of which comparison as the prelude to classification emerges almost spontaneously. It makes nature-study the natural avenue to the science which is to follow. Empirical acquaintance with scientific truth embedded in reality is accumulated almost unconsciously, and the way prepared for the more abstract rational adjustment which is to follow. All this seems clear. At the same time it is necessary to remember that individuality, the interplay of parts subserving in their functioning the welfare of the whole, is the ultimate goal of science and, indeed, of philosophy, since the whole universe in space and time is probably individual. We mean that when we talk of life-history as a method of nature-study, we must remember that, while it links on easily and naturally to the experience of the child on the one side, it touches reality as a whole on the other. Unless we test its applications carefully and systematically, it may lead us and our pupils into deep waters, and defeat the effort at adjustment which it is meant to facilitate. When we get beyond the individual to life-societies, often put forward as suitable units for nature courses, the difficulties are multiplied. It is easy to talk airily of a pond, a forest, and a farm, as themes around which details can be organised. They can unquestionably ; but only if the material is carefully worked over, limits found and fixed by trial, and ways of carrying the intermittent attention of the young over gaps which science alone can fill in, discovered by actual experiment.

The same note of warning seems necessary with regard

to the conception of the unity of nature. It is sometimes maintained that this principle should be our guide in drawing up nature courses, and that it is fundamental, as contrasted with the departmental conception which is the basis of scientific advance. Now, no doubt, the dependence, say, of the functioning of roots on soil and moisture and of leaves on light, can be made a reality to children, as also the interdependence of plant, bird, and insect life in a wood, and the continuity of all three with inorganic elements and forces. Further, from the adjustment of the teacher himself to the unity of nature may arise many an illuminating suggestion. But we must not deceive ourselves. Such ideas of dependence and interdependence must for children be, in the nature of things, vague and fragmentary. And it would be the subversion of sound method to base our syllabuses and our teaching on the assumption that the unity of nature is to be a pervasive operative principle. It is rather a far-off end, though it may now and then throw a ray of illumination backwards on to our modest task. More than this it would be folly to expect.

The principles we have noted are formal : they are applicable to any material we may select. And they will help, if rigorously tested, not only in the first selection of suitable material for each stage of adjustment, but also in the weaving of the syllabuses for the separate stages together, so that the course forms a coherent and progressive whole. Thus, living and organic phenomena will predominate at the outset. Inorganic elements and forces will be introduced incidentally as conditions of life. Gradually they will be brought into focus, as when a raindrop or a weather-worn hill claims attention for itself ; although it will be well to see that they are never long without a fringe of human reference. So also a concentric basis of selection may be imposed by the need for perceptual reality. It may be necessary to go to the same garden or the same window-boxes for material in successive years, in which case a progressive treatment of familiar topics will be the only way of satisfying the principle of relative novelty. In a word, the separate principles must be so combined that the course as a whole reflects a gradual withdrawal from the complexity of the real to the more clearly-defined and simpler outlines revealed by analysis and

abstraction. There must be a steady onward movement towards the point of view of science. It should be gradual, keeping pace with growth in the power of voluntary attention. If skilfully made, the transition need involve no loss of emotional warmth. The main safeguard is to satisfy the need for a personal grip of fact and truth. Adjustment at this stage of transition means branding phenomena with the hall-mark of personal possession. We may say that the centre of gravity of adjustment is shifting. At first it lies in the phenomena themselves. They take possession of the child, satisfying his curiosity and wonder. Subjective and objective factors co-operate at this, as at every, stage; but the dynamic resultant is perhaps in the latter. As, however, immediate objective constraint weakens—catholicity of interest flagging—it is necessary to develop a counterbalancing sense of power over a narrower range. This is the time for collections, aquaria, garden-work and models. The time also for diagrams, graphic representations, drawings and verbal descriptions. The former are not to be regarded merely as healthy disciplinary occupations, nor the latter merely as valuable exercises in reproduction. They are such, but that is not their essence in the process of adjustment. That is rather the restoration of equilibrium through emphasis of the subjective factor in the process. Within experience a process of fixing, of nailing down, is mediated by these activities. They are not subordinate but fundamental. They represent the victory of mind, the assertion of individuality. Through them the environment is not merely made continuous with the self; it is branded as the possession, the extension of the self. In like manner a technical term boldly and confidently applied is a beacon, a blazed tree, on the track of exploration. It is not merely a sign-post, it is a peg signifying conquered territory.

§5. This is a convenient point for a note on the place of ancillary activities such as manual work, arithmetic, and reading in the primary course. They are ancillary to adjustment. We are considering adjustment to the first world, but their relation to adjustment to the second and third is of the same nature. Take manual work. Its enthusiastic champions—and they are in the front line of protagonists—often seem to lose perspective. The subject in their hands

becomes absolute rather than relative ; or perhaps it would be truer to say that its relativity becomes partial. Its focus or terminus is the individual. It is the old obsession of discipline which we come across once more. Their exercises are organised mainly, if not entirely, with a view to the individual's progress in skill and dexterity. They proudly disclaim utilitarian ends. It is not their task to give vocational training ; and there we entirely agree. Our complaint, however, is that in hypostatising their work they hypostatise the individual. And, if our view is sound, he cannot be hypostatised. If, not the individual, but the adjustment of the individual is the goal of education, manual training should be directed to the attainment of that goal. In practice that means, so far as adjustment to nature is concerned, that the bench and the workshop should contribute directly to the conquest of the physical environment. Boys—and girls—should be making window-boxes, plant-props, rabbit-huts, record-boards, working-models, T-squares, and the like. These things subserve utility in the higher sense we have already noted.¹⁸ Manual training can thus help to give the pupil the sense of adjusting his environment to himself. And in the process the instructor will find ample opportunity for the discipline in calculation and precision of execution which he rightly assesses so highly. Only it will have a focus and an objective at once in the individual and beyond him. It will help to make him master of his world as well as of himself.

Arithmetic perhaps stands on a different footing. It deals with a definite aspect of reality, the quantitative one, and its *raison d'être* is thus essentially the bringing of adjustment to precision. Yet, as one of the three R's it has got into a false position. These, it is said, represent the minimum of equipment, but since it has rarely been asked : equipment for what ? theory has halted at the subject itself, and not got beyond it to its purpose. The result has been that the subject, secure in its own right, has developed fantastically and beyond its proper boundaries so that the pupil is taken through intricacies which will not only never serve him usefully, but which actually block the avenues of easy access to algebra. Power to manipulate quantities and

¹⁸ See pp. 65, 66.

magnitudes is a need which arises naturally in the process of real adjustment to nature. Arithmetic is a necessary part of nature-study and arises naturally out of it. If it were kept in this relation almost exclusively in the primary school, and the intricacies arising out of its application to human affairs, e.g., interest, exchanges, and investments, postponed to the secondary stage when history in its economic and social aspects really begins, half the time now given to it might be saved, while its factorial efficiency for adjustment would be doubled. In this as in other directions the primary course begins better than it goes on. Number emerges naturally from nature in the beginning of the course, but it gets further and further divorced from it as the course proceeds. The problem is to bring them together again. Dewey thus summarises the experience of the elementary school attached to Chicago University : “(a) The more direct modes of activity, constructive, and occupation work, scientific observation, experimentation, etc., present plenty of opportunities and occasions for the necessary use of reading, writing (and spelling) and number work. These things may be introduced then, not as isolated studies, but as organic outgrowths of the child’s experience. The problem is, in a systematic and progressive way, to take advantage of these occasions. (b) The additional vitality and meaning which these studies thus secure make possible a very considerable reduction of the time ordinarily devoted to them. (c) The final use of the symbols, whether in reading, calculation, or composition, is more intelligent, less mechanical; more active, less passively receptive; more an increase of power less a mere mode of enjoyment.”¹⁹

The particular function of reading in relation to nature-study is to extend the area of adjustment and to feed and stimulate the imagination so that attention, rivetted to successive details in actual nature lessons, now passes freely from the one to the other, from organ to function, from phenomena to their relations, so that a continuous fabric is spun, later to be the field of more intensive intellectual investigation. Books about nature, brightly written, supply a link between perception and conception and serve the pur-

¹⁹ The School and the Child, p. 125.

pose which Kant conceived under the idea of the schematism of the categories of the understanding. Reading, and recitation especially, will also serve the further purpose of emotional development and adjustment and thus carry forward the evolution of the scientific sentiment. So that linguistic and literary work, like arithmetic and manual work, become, as Dewey puts it, "organic outgrowths of the child's experience." The book will not only be an instrument of adjustment to the first world at this stage. Readers with humanistic content will be a link with the second. But they will stand in a different relation to this second direction of adjustment. Their purpose here is to supply the actual introduction through song and story to the "transparent world of minds." Song and story will, of course, link on to the child's previous experiences of social relationships in the home and the school. But they will formally introduce the second world in the same way as nature lessons formally introduce the first. They will furnish the empirical and emotional experience out of which adjustment to history and civilisation will emerge.

We may now sum up. The child comes within the directive control of the school with an outfit of experience of nature in which a considerable amount of synthesis and analysis has been achieved. Nature study continues the process. Childhood is at home in the realm of nature, but it is nature in the concreteness of perception, imagination, and association, rather than in the abstract significance of conceptual thought. In promoting adjustment to the first world, nature-study must conform to psychological rather than logical criteria. Grouping or classification goes on and, of course, presupposes some measure of isolation of qualities and features, similar and dissimilar. There is even the germ of definition which is classification "brought to conception." But procedure should remain empirical rather than rational, should lie with denotation rather than connotation, with classification rather than definition, with biography rather than analysis. Rational conceptions can only be inadequate being based on inadequate experience. Definition should be hinted at rather than pressed. Such simple experiments as those which elucidate the effect of warmth, moisture, and light on growth are appropriate, and foreshadow the isolation

and quantitative determination of causes which is the goal of science. Manual work, arithmetic, and reading are aids to adjustment growing organically out of nature study. The transition to science is gradual but continuous. But nature study remains at the concrete and pictorial stage. Development of experience, extensive and intensive, must be sealed by emotional warmth. Imaginative play, with the animistic impulse behind it, must be given free scope. Adjustment must bear the individual brand. The environment must grow on to personality.

§6. Geography comes next in the series of studies whose aim is adjustment to the world of nature. It is obviously a department of nature study in its comprehensive meaning, and it stands in the closest relation to the introductory work we have just considered. There is a sense, indeed, in which nature study and geography are one. They both look out on the same broad field. And their unity extends to depth as well as breadth; for, as has already been noted, all scientific investigation of nature is ultimately utilitarian in the fine sense of giving a man a better footing in his first world, even if the knowledge accruing remains unapplied in any immediate and direct way to his material betterment; while geography looks at that world as the home of man. It is necessary to emphasise this identity rather than difference, if only that schooling may be made an organic unity, and not that mechanical juxtaposition of activities which it so often is. Still, geography has its own individuality, readily realisable if it be thought of as a great divide, shelving off on one side into nature study and science, and on the other into history and civilisation. Viewed thus, it is seen to be focal and fundamental in respect of adjustment. Indeed, tradition has been sound in assigning to it a central place, at all events in the primary course, just as until quite recently it has been unsound as regards method of attack. Now that a more rational treatment has been generally approved, and the subject itself has won a place in the front rank of the sciences, we may hope it will find the welcome it deserves in the secondary sphere also. Without it adjustment remains incomplete even in the vulgar estimate. To be constantly "at sea" in the physical environment, to have developed neither the rare sense of the north nor the common

sense which enables a Boer to read spoor and the city man his Bradshaw, is to be an ignoramus in the eyes of all men.

A good rule in geography is not to get so far down the slope which leads to nature study and science as not to be able to see humanity on the other side of the divide; and vice-versa. But we need not press our rule too far. Dewey seems to find a human, *i.e.*, a social, reference in all knowledge worth pursuing, but we are inclined to agree with O'Shea²⁰ that there is value, as well as delight, to be got by putting our own individual mark on a bit of the first world, written in wonder as well as understanding. Geographical phenomena, though their ultimate significance may be their human import, sometimes come home to one through their own arresting power. Table Mountain was for me, on a November morning of 1902, just a miracle of beauty. It was not the end of a sea-highway, not a sea-junction for India, Australia, and South America. And we are justified in sometimes treating geography as a means of presenting the phenomena of nature for themselves alone. They will accumulate human import naturally enough in the process of adjustment, just as they will assuredly shed it in moments when nature itself calls again. This means that we need not, indeed must not, be too rigid in fixing our theoretical boundaries and differentiae of subjects. As a rule and in general, geographical facts all depend on their meaning for man, man in community with his fellows. But that is not their whole significance and value. The submarine bluff which at the hundred-fathom line off the British Isles converts undulatory into translatory tidal movement, and makes the easy incoming and outgoing of ocean vessels such a significant economic fact for British harbours, is also in itself, as an under-sea rock-face, a natural fact which, on its first revelation and at every subsequent naked presentation, can arouse the elemental emotion of wonder. We must in geography from time to time get back to nature. It is sound to withdraw to the standpoint of meaning for man; it is equally sound to get back to nature. It would be true, of course, to say that the further we get from the great divide which is geography's territory down the slope to science on one side or to history and economics on the other, the further

²⁰ Education as Adjustment, p. 115.

we get from the position whence the subject appears in true perspective. But the perspective of subjects is not the aim of adjustment so far as the boy or girl is concerned. It may be for the philosopher as such, but he is hardly the man we want. We want one who, through adjustment, is able to live, to play his part, to realise Herbart's many-sided interest in, and, we may add, a many-sided contribution to, life, both his own and that which he shares with his fellows. We need not isolate geography. The world does not isolate geographical facts.

It is an obvious truth, though teaching and exposition often overlook it, that we must get the habitat of a people into focus if we would read its history aright; just as one learns much of a man from his house and garden, as also from his poise and physical bearing. Words such as environment, background, and setting imply a mechanical relationship and perpetuate the superficiality of common thought which makes of a people and its native-land, a man and his home, two and not one. We have suggested one and not two as the meaning of what we call experience in which man—the individual and the nation—and his environment fuse. So that, as Dewey says, "while geography emphasises the physical side and history the social, these are only emphases in a common topic, namely, the associated life of man."²¹ It is, indeed, only the constantly-increasing store of knowledge which makes it necessary to separate the two. They naturally form a unity, for they describe a unity, the experience of humanity. And it is just because their separateness in books and school time-tables leads us to forget their oneness in reality, that such a note as this is necessary. Moreover "in the beginning history is all geography."²² The life of a people is parallel in this with the life of an individual. Adjustment to nature is the first step, adjustment to the "transparent world of minds" the second, adjustment to the moral order the last. Each step gives a footing for the next. It follows that we must frequently get back to the first if we are to interpret aright the social and moral progress of a people. South Africa affords a good instance. Born out of voyages of discovery, its early

²¹ Democracy and Education, p. 247.

²² Mackinder, Britain and the British Seas, p. 231.

history is largely shaped by Table Bay, Table Mountain and the country as it was opened up to the north, south, and east of that centre. The history of the inland provinces, of the Free State and Transvaal, originates in the natural features and conditions met and surmounted during the Great Trek. So it is with the history of every country. It begins in a struggle with the unconquered wild. As the background of history and the foreground of nature-study and science, geography is indispensable to adjustment.

§7. The beginnings of that side of adjustment which we call learning geography must, like nature-study, lie in direct perceptual contact with the real. Nothing else will do. As we shall in a moment see, progress in the subject will largely depend on the interpretation of signs, diagrammatic as in maps, and symbolic as, mainly, in written descriptions. Improvement in means of locomotion and communication has not done a great deal to increase the area of the earth known directly and intimately by the great mass of the population; save under the abnormal circumstances of a world war. Those who travel on public or private affairs, pleasure, or education, are normally few. The limits of the part of the earth perceptually known are for the majority narrow. It follows that geography for most of us can only mean a rough approximation to adjustment, so far as the world as a whole goes. And the degree of approach to accuracy will mainly depend on the decoding of representative signs, varying from the closest fidelity to fact, as in the case of photographs, to the merely symbolic, of which the best example is furnished by words themselves. The key to the code can only be forged by perceptual experience. On that alone interpretation must ultimately depend. In this sense Leibnitz's saying: *L'éloigné est exprimé par le prochain*²³ applies with special pertinence to geography. We must begin with the real then: with hill-top and cliff-head, with street and water-way. We must approach the map through slopes and dongas, through boundary-walls and bridges, roads and railways. Records of rainfall, temperature, wind and weather generally, made after direct observation, and kept by the individual himself, will give him the key to many geographical diagrams which might otherwise be just glanced at, and

²³ See Venn, Empirical Logic, p. 11.

passed by as meaning little or nothing. The way to an understanding of political or administrative facts is through the same gate. A tram terminus, a sign-post marking a municipal boundary, a natural frontier, such as a mountain range or stretch of sea, recognised as such, will give meaning to administrative and national symbols on the map. So in general the way to the map is by drawing one on a large scale after practical measurement, by observing and recording daily, monthly, and seasonal phenomena of earth, sky and sun.

The near and the far are, as a matter of fact, reciprocally related in respect of interpretation. We have quoted Leibnitz, but Tennyson's reflection on the "flower in the crannied wall"²⁴ is equally pertinent. And we can add the scientist's conviction to the poet's. Huxley said: "Step by step the conviction dawns upon the learner that, to attain to even an elementary conception of what goes on in his parish, he must know something about the universe."²⁵ This is particularly true of geography. We begin at home because "conception without perception is empty,"²⁶ we look out beyond home because "perception without conception is blind."²⁷ And for distant phenomena we have to rely, and can well rely, on maps. They retain perceptual constraint, though they are at the third remove from reality, photographs occupying the second. This is one of the distinguishing features of geography, and by no means the least valuable as a medium of adjustment. Most of us can only know the world beyond tramping radius in maps, contour maps for preference. They are stimulating productions, with certain distinct advantages over photographs. They are a spur to the imagination and, what is more important, to that power of intellectual synthesis which, while it is organically related to imagination, and perhaps is evolved out of it, yet transcends it. "The distinctive character of this intelligible form or synthesis lies then in the fact that it is selective. In this respect it differs from the synthesis of association, which unites together whatever occurs together."²⁸ Imagination,

²⁴ In the poem beginning "Flower in the crannied wall;"

²⁵ Quoted by Stephenson in *Broad Lines in Science Teaching*, p. 122.

²⁶ See p. 58.

²⁷ Cf. Barnett in *Common Sense in Education and Teaching*, pp. 250, 251, and Dewey; *Democracy and Education*, p. 248.

²⁸ Ward, *Psychological Principles*, p. 302.

synthetic though it is, is yet in bonds; it is the captive of presentations. Intellectual synthesis is free. It roams at will over the details of presentation, ignoring this and annexing that, and reaching out to the bounds of the universe to find a clue to the meaning of what it annexes. It is the activity of mind as the master element in adjustment. And maps stimulate it. The very simplicity and definiteness of contour lines, of coastal boundaries, of mountain frontiers, and of river-ways, afford the opportunity for the synthetic activity of the ego. Freed from the mists that obliterate real contours, and the colours that cloak real boundaries, the ego sets boldly about the task of synthetic manipulation. Only very occasionally does the pedestrian on the moor or the fore-shore realise human ascendancy. In the glamour of nature he loses himself and no doubt with moral and æsthetic profit; but in the study or the classroom, with a regional geography open before him, say Mackinder's "Britain and the British Seas," he finds himself again. He sends the water-courses down the flanks of the divide, he sees the still surface of the lakes in the rift-valleys, he paints the grasses on the uplands and the cornfields on the lowlands. With the map open before him he becomes architectonic. Nature controls him; even landscapes and seascapes on the walls, do so in a less degree. Maps are contributory: in reading them he feels himself master of circumstance. Stay-at-home though he perforce must be, he has the advantage over many a sailor who has traversed all the seas and many a wanderer who has penetrated all the continents.

Adjustment to the first world implies, then, being at home in maps. Let us now look at the stages by which such familiarity can be reached. Three may be distinguished: at the first the translation of signs by means of perception and conception is the aim; the second is the classificatory and descriptive stage, occupied by what is known as comparative geography;²⁹ while at the third inference is central, regional geography being the sphere in which it operates. They are not to be artificially and rigidly separated. Remoter aims will throw their shadows backward. Thus, in translating

²⁹ By comparative geography we mean that in which the political, national, or administrative unit is the point of departure, e.g., the county, province or country. Of course the unit may be—and should be—treated regionally.

contour shading into perceptual and conceptual fact the first glimmerings of regional and comparative geography will appear. The Witwatersberg for Transvaal children, as the Pennine Chain for those of Lancashire and Yorkshire, will not merely rise pictorially from map-markings; they will, in the fringe of presentation, be watersheds and divides. So also the first elementary notions of mountain, river, plain, and estuary will be schematic, to be gradually filled out as progress is made through comparative to regional geography. The wise teacher is always looking both forward and backward. The first steps are determined by the ultimate goal, and the first conceptions only become adequate when the goal is reached. The blend of the empirical and the rational in every stage of progress towards the latter is as sound in geography as in any other medium of adjustment. Concentricity in method means two things: a common centre, the ego, and the inclusion of the first area of presentation, in an ever-widening circumference. We must bear in mind this fan-like characteristic of adjustment when we are considering its stages. The radii are continuous. They are the axes of presentation.

The stages mentioned are the same as those distinguishable in the whole course of which nature-study forms the primary and science the secondary part. This obviously must be so, inasmuch as geography is a branch of science. The first stage we have called translation, reading the signs on the map in the language of real and adequate ideas. A lot of nature work will be necessary in order to acquire that language. If the natural features in the neighbourhood of the school are few, we shall have to depend mainly on pictures and bird's-eye views: but in these days of cheap excursions, the school-journey should be in most cases a possibility. The advantage of open-air work is that the unity of natural phenomena is preserved and the foundation is laid for those causal relations which are the essence of regional geography. The mountain-range, river-course, tributaries and sea-estuary are all of a piece; as are sea, shore, cape, inlet, and tide. Also proportion and perspective are preserved. These two things, the unity and relative magnitude of natural features, it is one of the main aims of geography to bring out. Even at this stage a great deal can be done to

develop precision of quantitative and spatial conceptions. Conceptions of scale are usually attempted far too early, whereas appropriate and extremely useful exercises in relative position, direction, and magnitude can be devised in the open and in the class-room with plan or map, and can be given from the beginning of the course. Real arithmetic can be based on them. It used to be the practice to set out in geography, as in geometry, from definitions. The better way has been found in both subjects. It lies in preliminary survey and measurement, followed by the recording of results with such a degree of precision as is attainable. After this preliminary work has been done, there is no reason why a pupil should not roam at will over a map of the world or globe, discovering for himself instances of all the main land and sea features. If he has a grip of the whole in outline, it will help him to pass to a study of the parts in detail.

§8. Comparison is the clue to adjustment at the second stage. The points of view from which countries may be compared are, of course, numerous. Latitude is one of the most useful, because inferences from it are so many and so far-reaching. The sentence "Africa extends from 37 degrees north to 34 degrees south," enables us to contrast it with Europe, Asia, and North America, and assimilate it to South America and Australia, in respect of more points, perhaps, than any other single fact. It will be essential, therefore, to follow up the implications of latitude as far as possible. The fundamental fact, of course, is that the altitude of the sun at noon at the equinox is the complement of the latitude of the place. Thus for London Lat. $51^{\circ} 30'$ N, that altitude is $38^{\circ} 30'$, and for Pretoria, Lat. $25^{\circ} 45'$ S, it is $64^{\circ} 15'$. Or, put in another way, for every degree of latitude the sun at the equinoxes is removed one degree from the zenith. This primary fact, taken along with the inclination of the earth's axis to the plane of its orbit, is the fundamental factor in climate and thus in all that follows from the climatic zones. A good start has been made with adjustment to the first world when a pupil can draw legitimate though, of course, qualified inferences about the climate of a place, and unqualified ones about the sun's altitude and the length of day and night at different seasons of the year, from the figure which gives its latitude. Progress in geography will, generally speaking,

consist in combining other factors such as altitude, proximity to the sea, nature and configuration of the surface, with this one. Comparative geography will largely consist in observing how the human habitat differs from country to country or how it is reproduced as a consequence of such general factors as these.

At this stage too, what is called political geography will emphasise the co-existence of certain forms of settlement, industry and development, with the occurrence of these physical conditions. Sparsely-populated uplands, towns on river-ways and plains, manufacturing industries on coal-fields, agricultural industries as soil and climate determine, these and other like human features will appear as empirically known combinations of circumstances. They will be fixed by the comparative method and will so far mark an advance in the organisation of facts. The rational element will be present in the connecting of physical with political and industrial conditions. It will be present also, marginally, in the gradual adumbration of economic relations as dependent on physical conditions. In the mere enumeration of trade routes on land and sea, and of products and commodities borne along them, the way will be paved for the economic aspects of the regional geography which is to follow. So, too, the ground will be prepared for the relations of geography and history by incidental references to historical associations which are appropriate to the comparative stage of geography. The very name Cape of Good Hope calls for a reference to those hardy adventurers who carried the fame of Portugal round Africa to the East, and thus introduces the idea of the historical genesis of the age of exploration. So also Grimsby and Lincoln are an index to Norse and Roman expansion respectively which no teacher would knowingly miss. Comparative geography, though its facts are welded mainly by association, is thus also the natural transition to that synthesis of the intellect which is the aim of adjustment to the first world, and makes clear important factors of adjustment to the second.

§9. The geography and nature-study we have so far indicated, are eminently suited to boys and girls up to the twelfth or thirteenth year of age. Physical activity and mental activity on the side of memory and imagination, keen-

ness on the exploration of a wide field rather than concentration on a narrower one, are characteristic of these years of childhood. With the dawn of adolescence mental life deepens and the opportunity for a more serious investigation of natural phenomena in their relation to the needs and aspirations of men, has arrived. No better field for it during the next two years of school life than regional geography, with physiography as a parallel and illuminating study, can be found. Regional geography is essentially rational geography. The region as a physical and an economic and perhaps a political unit is held together by casual relations. Study of it is an opportunity for going into the why as well as the where of geographical facts. Within it physical features such as contour, river-basins, and soil, climatic conditions such as temperature, rainfall, and prevalent winds, organic and inorganic products, such as plants, animals, and minerals, and the distribution and industries of man, are all bound up, not merely by bonds of contiguity, but by the stronger cement of cause and effect, evolutionary forces being traceable both in the natural and the economic sphere. History, too, as a product in no small part of natural environmental conditions, becomes to that extent powerfully interesting. For like geography it becomes intelligible. It ceases to be mere description. It takes on in some degree the character of inevitability. The effect of Britain's insularity, as described by George,³⁰ in promoting nationality, is a good example. It is not the only factor, of course, but it is a very important one. "Other causes besides insular separateness no doubt contributed to preserve and develop in England the old Teutonic institutions, little affected by the feudalism of the continent. The wisdom of William I and Henry II was necessary to build up on this foundation a system which welded England into a coherent nation, centuries before any nation worthy of the name existed on the continent."³¹ It is not suggested that pupils of thirteen to fifteen can pursue such a topic as the relation of nationality to environment to any depth. There is good reason, however, to seize every opportunity which occurs of relating history and geography. The regions of England and their relation to the distribution

³⁰ The Relations of Geography and History, pp. 132-136.

³¹ Ibid., p. 135.

of the Angles and Saxons, for example, is a topic well within the comprehension of pupils of this age.

In regional geography, then, the point of departure is the natural unit, that which nature has made a whole of; while in comparative geography it is the political unit, the home of a nation. There is, perhaps, room for argument as to which should come first, but it is argument in the vacuum of logic. And for a theory of education the fundamental criterion is obviously the psychological one. As between the teacher with scientific leanings and the one whose eye is for ever directed to the humanities, there may be battle-ground. But the issue only concerns them as experts. With the child as the deciding factor controversy evaporates. His experience makes Transvaal or England or Scotland—his home in the wide sense—the familiar unit, and the transition to Cape Province, France, or Canada, as circumstances and choice may decide—the home of contemporary boys and girls—the natural one. The region is a natural unit to the scientist, but it is artificial to the young pupil, at any rate relatively to the national one, because the bonds which make it a whole are but dimly and empirically appreciated. Even among geographers there is difference of opinion. For example, Professor Lyde, in the preface to his work on "The Continent of Europe," says: "Much emphasis is laid on the political unit, because I find it just as difficult to picture clearly the precise limits of a natural region—in Professor Herbertson's sense—as I find it easy to picture the delimited frontier of a civilised state. It is almost always the political control that gives the dominant note in the most important areas; and, as the method of treating such areas should in each case, as far as possible, be appropriate to the dominant note, the political unit cannot be made subordinate without more being lost than is gained. Besides, to most of us geography seems to have neither meaning nor value apart from Man; and so we usually think in political units as far as human activities are concerned. For the name of a political unit, e.g., France or Japan, is far more than a mere label of an atom of artificially partitioned land; it contains a whole world of suggestion and association, and is an epitome of all that makes a nation—of things achieved—of a type of art and literature, in science and politics—of an ideal, the passionate

desire to preserve and perpetuate which is the only thing deserving the name of patriotism."³² This is eloquently said and most teachers would subscribe whole-heartedly to it. It does not, however, destroy the value of a course such as that outlined in Reynold's *Regional Geography of the World*, and no doubt Professor Lyde would be the last to suggest this. It does strongly support the view that regional geography should follow a preparatory course in comparative national geography.

§ 10. Regional geography follows naturally on comparative geography because it develops the presentation of the whole which is schematic, and does so by explaining similarities and differences causally. It is an onward step to rational adjustment. Professor Lyde gives us a sound principle of method when he states the "conviction that geographical details are illuminating only when viewed as instances of world-processes."³³ In other words we are to select and deal with particulars and details in so far as they illustrate law and the universal. We may, perhaps, profitably note a few aspects of the universal which regional geography can readily reveal. One we have mentioned already, latitude. Here we have the logic of what we might call solar position. It is pregnant with inferences of a far-reaching character. It would not be a bad rule to open consideration of the geography of a political or a regional unit with an exercise in deductions from its mean latitude. The altitude of the sun at the equinoxes and solstices, the varying length of day and night, the length of shadows and the duration of twilight, follow directly and inevitably. And what a wealth of secondary deductions: housing, dress, food, habits of life, for example! The Herbartian would welcome with enthusiasm the opportunity which a degree of latitude, with all its certain implications, offers, as a "preparation stage" for further progress, for further inferences which would need to be made more cautiously. The region is dominated by its solar orientation, and adjustment to this would be an excellent start.

Then there is the logic of atmospheric currents also fertile in inference, just as the movements themselves are fertile

³² Preface, p. v.

³³ Preface, p. vi.

in consequences. As to the latter, Professor Lyde says : "The most important single phenomenon in World-climate is probably the swing of the wind-system with the sun, leading to a swing of the rain belts and rain seasons."³⁴ Let us glance at it from the point of view of presentation and the adjustment of the individual to it. There is the updraft with consequent low-pressure under the sun, save as modified in monsoon areas which would be presented separately. The physics of the phenomenon, so far as it could be followed up at this stage, would be dealt with in the parallel physiography course, to be referred to presently. The inflow from north and south is an easy deduction, although the westerly twist which gives the trade winds their permanent N.E. and S.E. direction, is by no means an easy one. In fact, only being properly cleared up by the conception of relative velocity, a conception which the average pupil of, say, 14 years cannot adequately grasp, it will have to remain temporarily at all events on the surface, a fact known empirically, with, perhaps, a rational clue in the margin of consciousness. That need not be a matter of regret, as we have seen. A firm empirical footing is better than a shaky rational one, and the first easterly voyage of Columbus provides a fixing association. That the northerly trades carried him steadily across to America, as they carry sailing tramps to-day, will appeal to boys not ripe for relative velocity. It is the sort of association which links physics and physiography on to geography. The compensatory swing to the temperate zones : the south-west winds which carry North Atlantic vapour to the British Isles, and the "brave west winds" which carry the same harvest of the South Atlantic to the south-west corner of Australia, will, perhaps, be caught up in the conception of atmospheric equilibrium. Its maintenance by monsoons in eastern seas is also within the logical comprehension of pupils of the age we are considering. The more complex conditions of cyclonic and anti-cyclonic movements—the "wind-whirl" and "wind-wyr" as Professor Lyde prefers to call them³⁵—are far less easy to handle inferentially and are best familiarised through a study of meteorological records. They are a good instance in the

³⁴ The Continent of Europe, p. 3.

³⁵ Ibid, pp. 2, 3 and Preface, pp. vii, viii.

case of pupils living in Northern Europe of the fallacy of always beginning at home and working outwards.³⁶

Then again, the logic of precipitation, involved, of course, in what has just been written, is well within the compass of pupils of fourteen to sixteen years of age; and the fact satisfies Lyde's criterion of universality. It has, moreover, a personal interest, originating antithetically for pupils whose homes are in different zones: in its uncertainty for English boys; in its regularity and periodicity for those who live here in Transvaal. The saturation-point, its variation with temperature, the effect of the ascent of an air column on its temperature, the up-current when moisture-laden winds strike a mountain face, the mists and rain on its flanks and summit, and sometimes, where circumstances of soil are favourable, as with us in the case of Table Mountain, the otherwise unintelligible verdure which clothes them—to all these our pupils can be rationally adjusted. The logical step to snow, hail, the snow-line, glaciers, icebergs, and snow-fed rivers is an easy one, and one which enables reason to annex what may never be perceptually known—a truth appreciated by us, many of whose pupils have never seen the miracle of snow.

Contour and configuration, wearing and weathering, erosion by wind and water, the sculpture of valleys and riverways, dongas and washaways, alluvial plains, the silting up of river mouths, tides and tidal rivers, all these are material ready to hand, ready for logical manipulation. It is unnecessary to multiply examples further. But an emphatic word of warning is necessary. There is a tendency among writers of text-books on regional geography intended for schools, and among enthusiastic teachers of the subject also, to heap up bases of inference and details inferred from them, regardless of the capacity of school-pupils. Geology especially seems to offer an irresistible temptation. Some of the basic principles of this fascinating subject, in their general implications, such as folding, faults and rift-valleys, upheaval and subsidence, volcanic thrusts and depository agencies, are appropriate enough. On the other hand the following extract illustrates that the boundary of the appropriate has been passed: "Geologically, the African plateau

³⁶ Cf. Stephenson in *Broad Lines in Science Teaching* pp. 127, 128.

seems to be an expanse of ancient crystalline rocks, covered in places by sedimentary rocks also of great age. The great Karroo formation in South Africa belongs to the early Mesozoic period. Apart from the alluvium of the Congo Basin the younger rocks seem almost to be confined to the northern edge of the continent, where in the Atlas region there are great beds of cretaceous rocks, and further to the east rocks of tertiary age.³⁷ Real adjustment is impossible here without presupposing a systematic course in geology. Regional geography does not seem to have shaken down so as to give us a clear rift between school and college sections of the subject. It is the old fallacy of a logical rather than a psychological criterion of curricula. The school course is not a mere attenuation of the college course. There is a distinct danger of overloading rational geography, as the irrational geography of our early days was overloaded with disconnected facts.

§11. We have to note what is, indeed, a commonplace among geographers that the subject must end with man. The fascinating study of natural features and phenomena is for geographical adjustment transitional. Their focus is humanity. Room must be found in any rational scheme for economic geography. And the geographers are agreed upon the method of approach. It could hardly be otherwise, since the claim of the subject, as recently developed, is its rationality. From the environment as conditioned by structure and climate, the activities and modes of life of men are to be deduced. The latter are explainable as products of evolution conditioned by the former. Only, when the deciding factor of adjustment is introduced, the warning that we must keep to broad lines and inferences appreciable by youth, must be repeated. The material is so abundant, and also so fascinating since it combines the attractiveness of science and the humanities. That perhaps explains the enthusiasm of most students of the subject. From the firm ground of science, and freed from the mists of metaphysics, it faces the organic unity of two worlds, nature and civilisation. The bold sweep characteristic of the works of Herbertson,³⁸ Mackinder,³⁹ and Lyde,⁴⁰ for example, is a fine index of the

³⁷ Webb, *A Systematic Geography of Africa*, pp. 6-8.

³⁸ *The Oxford Geographies*.

³⁹ *Britain and the British Seas*.

⁴⁰ *The Continent of Europe*.

treatment necessary. But even in such company the teacher must not hesitate to exercise his inalienable right of selection, and to choose text-books which square with the limitations of boys and girls. Chisholm⁴¹ may be mentioned as a mine of information for reference.

The line of approach to economic geography is indicated in the summary description of the natural regions of the world contained in Herbertson's Senior Geography in the Oxford series.⁴² Natural products are shown as the effects of environmental conditions, and the industries and activities of men as the evolutionary effects of both. The first sketch is general and schematic, to be filled in gradually as the regions are examined in detail. That is a general principle of method insisted on throughout this essay. In respect of that detailed development of the subject one or two suggestions may be offered. The underlying theme is the economic life of men. That will, therefore, be the guiding principle of presentation. As subordinate and derivative principles we may note, first, the food of men and animals. The relation of the cereals such as wheat, oats, barley, maize, and rice to sustenance and thus to economic welfare, will give them a real peg of adjustment. It will come as a revelation to most pupils to learn that "wheaten bread was a rarity even in some parts of England within the last hundred years,"⁴³ and that "it is still a rarity at least for the poorer classes over a large part of the European mainland."⁴³ It will interest them to learn that we in South Africa never went short of sugar during the great war, while they were on scanty rations. Secondly, clothing will serve to give reality to facts about wool, cotton, and flax. Thirdly, housing will illuminate many products and industries: timber and lumbering, stone and quarrying, clay and brick-making. It will interest pupils to know that we can only build our houses and schools at a rate dependent, in part, on the supply of window-frames from Scandinavia. This suggests, fourthly, the economic importance of the exchange and distribution of products and the consequent significance of locomotion by roadways, waterways, riverways, and seaways, to which air-

⁴¹ A Handbook of Commercial Geography.

⁴² pp. 1-19.

⁴³ Chisholm, *op. cit.*, p. 67.

ways may now be added ; and of communication by post and telegraph. Fifthly, the conception of efficient labour, a factor co-ordinate in importance with natural products themselves, will lead to many ramifications : the growth of towns in industrial and commercial centres, the distribution of population, the conditions of labour as exemplified in the contrast between an English factory and a rubber plantation, for example ; and many more. Sixthly, and perhaps most important of all, the inverse ratio between ease of life and luxuriance of natural products and virility of national character which the history of modern civilisation seems to have established, should be constantly emphasised. Such derivative principles, ranging from simple to profound, can all be made operative in rational adjustment. No scientifically-constructed text-book ignores them, of course, but their profound importance for the illumination of economic geography perhaps justifies the mention of them here.

We may now summarise the theory of adjustment as it concerns geography. The subject is vital as the meeting place of nature and civilisation, of science and the humanities. Its differentia is nature as the home of man. A geographical fact may be arresting by its natural impressiveness or its historical associations. The submarine plateau from which Britain emerges is an instance of the former, and the Cape of Good Hope of the latter. We need not hesitate to isolate natural or historical significance occasionally, although our usual point of view must be one which enables us to envisage man and his environment in their geographical relation of unity. Adjustment must start out from perception and end in conception and inference. The first and last will be mediated by imagination ; and from the nature of the case the filling out of representation in maps by imaginative and inferential activity will be a central feature of adjustment. The near and the far are reciprocally related from the point of view of interpretation. Excursions in the open air and excursions over the map of the world, are complementary. To these subjective stages of perception, imagination, and inference, correspond objective stages which we may distinguish as preliminary, comparative, and regional geography. Both subjective and objective stages overlap and interpenetrate. In comparative geography the political

or national unit is the point of departure, though it may be developed regionally. In regional geography the natural unit is the point of departure, though political units as combinations or subdivisions of natural units will emerge. The preliminary and comparative stages are suitable for pupils up to twelve or thirteen years of age, and the regional for those from twelve or thirteen to fifteen or sixteen. A further development is possible carrying pupils to the completion of the secondary course at eighteen or nineteen. Here the science would be studied in detail and intensively.⁴⁴ The regional treatment is pre-eminently rational, although it must necessarily remain, to a considerable extent, descriptive also. Inference will take two main directions: the linking of natural features and phenomena with vegetable and animal products, and the linking of both with man in his economic and, incidentally only, his historical relations. Nature study in the narrow sense will be ancillary to and parallel with the course we have called comparative, and physiography will stand in the same relation to the regional course. Stories of exploration and discovery, and descriptive accounts of natural phenomena and economic conditions and activities, should be available in the school library. The subject should retain the glamour of romance, and retention is assured by unitary rather than fragmentary treatment. In this respect nature study, geography, and physiography are alike.

§12. Physiography was the third department of nature study mentioned at the beginning of this chapter, and a note on the way it can mediate adjustment will bring it appropriately to an end. It can be brief, for physiography is continuous with early nature study and parallel with geography, and has much in common with them. The reasons for including it in the school course and the method of attack are in most respects identical with those which apply in the case of the other two subjects. It is the concrete open-air science, or should be, and thus is in contrast with the more abstract science of the classroom and laboratory. It is the real introduction to science. Geography should, as we have seen, exhibit scientific method; but physiography, while it is in

⁴⁴ In the writer's opinion this further development is better left over for a university course. It requires a basis of systematic work in physics, chemistry, biology, and geology.

one sense subordinate to geography, is, in another, the gateway or vestibule to science as we commonly understand the term. Though the transition from nature-study is continuous, here for the first time the world of nature is approached so as to be conquered. Through knowledge it is to be made subordinate to mind. The rational standpoint is the permanent one. Physiography has this in common with all other sciences. Its differentia is catholicity of interest, and it is surely good that the introduction to science should be after this fashion. In exploring the continuum of presentations which mediate the first world, we shall do well to look out over the whole field before we trouble too much about the boundaries and organisation of the sciences. We shall certainly be following nature's plan if we do. Psychology unquestionably points that way, with its now well-established hypothesis of a continuum of presentations which becomes gradually more and more clearly differentiated. Moreover there is something particularly and even epistemologically appropriate about getting hold of the great elemental facts first: the daily procession of the heavens, the sun, moon, planets, and stars, day and night, winter and summer, wind and rain, light and heat, frost and snow, the continents and the oceans. We shall begin where we ought, in actual contact with reality; for, as Dr. Ward asks: "Is it not plain . . . that reality consists in the concrete things and events that science sets out from, and not in the network of relations which is its goal?"⁴⁵

Physiography must thus be handled largely and familiarly rather than through the artificial and isolated procedure of the laboratory. The Natural Science Committee says: "One of the advantages of this subject is that it gives opportunities for out-of-door observation, to which we attach great importance, not only at this stage but throughout the school course; it is unfortunate if pupils are left with the impression that physical principles operate only in a physical laboratory; it should be the object of the teacher to train the pupil to see illustrations of these principles in the experiences of everyday life. The course in physiography should include the simpler astronomical phenomena, which in the hands of a

⁴⁵ Naturalism and Agnosticism, Vol. II, p. 279.

good teacher may be made an excellent training in reasoning and observation."⁴⁶ Out-of-door work is particularly valuable. Education is so often associated with rooms, desks, and the sitting, listening posture; that is one reason why young people often try to escape it. If it were more often a process of interpreting natural phenomena themselves in the midst of them it would grow on to life and experience and not, as often, be divorced from it. The inclusion of simple astronomical observations and experiments is wise for a special reason. To feel at home in the firmament; to be able to fix axes and planes of reference in it by simple means, to follow and foretell movements of sun, moon and stars, to pass from shadows to positions and altitudes, to get an idea of rotation about an inclined axis and of revolution in a fixed orbit—all this is specially valuable as exploration of the real, just because it is the victory of mind over infinite space, the synthesis of apperception, and, as Dr. Ward maintains, of conation,⁴⁷ reaching out to the confines of the physical universe. The reference to conation suggests the place of practical work. The Natural Science Committee says: "At this stage (that of physiography) there should be practical work involving measurements of simple physical quantities, while a valuable introduction to some important branches of physics can be given if the manual training includes the making of some simple practical instruments and machines such as electric bells, small induction coils, telescopes, pumps, and so on."⁴⁸ Conation may be defined as the tension of the self towards self-realisation and practical work is the best "conductor" of conation. The utility and practical applications of science will harness a boy's real interests when he is setting out on the subject. The time of purely scientific interest is later.

Science masters are inclined to belittle physiography. They maintain its inevitable scrappiness, but their main objection seems to be that it is a bad start, an unscientific introduction to science. They feel, too, that science, having for its main object the ingraining and fixing of scientific method, rather than the communication of facts, however

⁴⁶ Report, p. 24.

⁴⁷ Op. cit. Vol. II, p. 186 ff.

⁴⁸ Report, p. 24.

interesting, must be in the hands of experts. There is a great deal in the objection ; but much, indeed most, of it appears to be traceable to the tradition of discipline as the end of school-ing. The wider conception of adjustment would strengthen the argument for physiography, for it would bring out the need for objective continuity between nature study and science proper which physiography is fitted to mediate, and for subjective continuity best secured by a glance at the whole before the parts are examined. Certainly all teaching should be expert, and the training course for teachers should secure that the majority at all events can handle physiography effectively. A good plan is for the science master to take it himself. This requires a transfer of pupils from the primary to the secondary school soon after twelve years of age, a period which, as will be urged later, is on all grounds the most appropriate. To take a subject at the beginning and the end is often the specialist's best course. He sees it well launched and gives it final unity.

CHAPTER III SCIENCE

§1. We have now to consider that stage of adjustment which science represents and the first step is to define it. It should by this time be clear that all adjustment is a development within experience. How, then, is experience modified when there is a step forward to the point of view of science? Following the method adopted in this essay, an answer in general terms may first be given and then its implications may be unfolded. Generally we may say then that advance to the scientific standpoint means a shifting of the centre of gravity, or more appropriately, since we are dealing with a process, the dynamic centre of experience from the objective to the subjective pole. We had better repeat that experience is the dynamic unity within which these factors are complementary. If we isolate them for a moment so as to see how first one and then the other becomes the predominant partner, we must not forget that such isolation is an artificial abstraction and that in reality each is necessary to the existence of the other. It is through their inter-action that experience develops or, what is the same thing, adjustment proceeds. But the dynamic centre is constantly shifting in what Bergson would call the real duration of conscious process. We have not to do here with anything analogous to a mechanical redistribution of force or energy but with a change of emphasis in what is an organic whole. Nevertheless the change is real. The genesis of constraint, so to call it, lies at one moment with nature; it lies without us, as we say when we are oblivious of the refinements of epistemological or educational theory. The lightning darts, thunder follows, and they oust our musings with scant ceremony, switching the mental current on to themselves. The dynamic centre is with nature. But only for a moment. The subject or ego takes apperceptive control of flash and crash and, after this momentary constraint, resumes its sway over conscious pro-

cess. So the pendulum swings back and fore. When a footing in science is secured it remains more or less permanently at the subjective end of the swing.

On the whole we may say that at the stage of nature study, of geography so far as we have followed it, and of physiography, the dynamic centre is objective. Constraint is from without. There is, as we have seen, a constant and gradual movement towards the position whence the pupil can envisage phenomena—precipitation, climatic zones, soil and vegetable products, for example, and man's activities in relation to these and other natural conditions—with clear insight into their causal connections; towards that phase of adjustment when he begins to wrestle with them logically and brings them within the sway of reason. There is no break in the continuity of adjustment. The transition from contemplation to organisation is gradual. Nevertheless we may safely say that so far he has only reached the frontiers of science. Our argument has, indeed, been that this period of adjustment is preparatory and probationary. It would be wholly improper and futile for him to presume to pronounce with any authority on the mechanism which confronts him. Wonder, curiosity, reverence, may well accompany a growing sense of affinity with this first great world, but not possession or mastery. On balance, the victory goes to nature. He remains a spectator although coincidences and sequences become, within his lights, more and more intelligible. When, however, he passes the frontiers and enters the territory of science the significance of the step is just this, that while remaining a spectator he begins to busy himself with organisation. He begins, as we say, to put two and two together. This putting together may be purely mental; he may just add phenomena together in thought as in the case of the lightning and the thunder referred to above, or he may apply his new knowledge, for example, by seeing whether the lightning-conductor has good earth contact. In either event, whether manipulation be merely intellectual or both intellectual and practical, it begins to originate with him. He begins to take the business of adjustment in hand himself. It is nature that is constrained.

We have here, then, one distinguishing characteristic of the stage of science and it applies to the neophyte as well as

to the gray-beard who has given his life to the task. The pupil entering the territory and the expert at home in it are alike in that they are engaged on the survey and organisation of it. The dynamic centre is within the subjective element of experience. But each entrant into this world must forge his own key. It consists of the same material as anybody else's : perception, imagination and intellect, which must be tempered by care, patience, precision and the glow of enthusiasm. Its forging is made easier, as we shall presently see, by the experience of others, which becomes available by intercourse through the spoken and written word. But the first essential for us to note, interested as we are primarily in what is necessary to the actual process of adjustment, is that each must make his own key. No borrowed one will do. We are back at the uniqueness of individuality again. So many men, so many worlds, and each must make good his own entry. Adjustment means just this fundamental fact of forging and fitting his own key. When for the first time the wards of the lock move : when the sea breeze is not merely a glow in the cheek, but a factor of atmospheric equilibrium, when plants in a garden are watered, not merely "to refresh them," but to make soil-food assimilable, when the moon's age is not merely linked on by association to its shape, but is a function of its position with regard to the sun, then the stage of scientific adjustment has been reached. Then tenure in the first world will be freehold and all the delights of possession will accrue, the greater because they spring from spiritual ownership. This last point needs strong emphasis. It is commonly supposed that the reward of science is material. Betterment of the material conditions of human life is, of course, usually an immediate consequence of successful scientific investigation. But men do not pursue science for purely utilitarian ends. It is the joy of spiritual progress, of the victory of mind, of the gradual extension of the sway of the human intellect and volition over the non-ego which is their true reward. So that schooling must keep in the very forefront this idea of adjustment as freehold tenure through spiritual conquest of the natural world. How far the holding of each will extend depends, of course, on native capacity and given opportunity. But be the area small or great it can only be won by progress outwards from a centre which lies

in the ego. And he must extend his own clearing. Whatever the philosophers may say of Bergson's conception of creative evolution as a world-process, it is fundamental for the process of human adjustment.

§2. It will be well to look at this stage of what we have called freehold tenure a little more closely. Let us compare it with its alternatives which are, first, no tenure at all, and secondly, what is comparable with leasehold tenure. A railway journey will illustrate them. A., B. and C. are occupants of the corner seats of a compartment. A is, we will suppose, an unfortunate whose scant schooling ceased at twelve years, since which time a struggle to live has enervated his intellectual and emotional energy. Phenomena of nature and man : mountain and tunnel, river and bridge, pass almost unnoticed. The series of presentations fall, as it were, on a screen and disappear, leaving no trace, save the possibility of revival in the same detached and fleeting way as they occur. They touch experience but become no real part of it. B. is more fortunate. He stayed longer at school and has tried to get a footing in the world of nature by reading and attending popular lectures. His series of presentations is not wholly detached. Now and again they arouse a feeling of familiarity. He remembers something of the theory of the snow-line as he sees the white mantle on the hills, but is puzzled by the fact that it is late spring and no snow has fallen for three months. So with other features he observes. It is a more or less familiar, but yet, an unchartered country that he looks out upon. His tenure is leasehold. His knowledge is hearsay. It is unreal, and his presentations form something not unlike a pale broken secondary spectrum. He has none of the real delights of spiritual possession. C. is a freeholder. He completed a secondary course at school, and it was a real medium of adjustment. *Inter alia* it included science under a wise master. He takes in the flat-tops or rugged granite intrusions of the hills, the sedimentary plains, the dark conifers on the former and the cornfields on the latter with an intellectual glance. The ideal conceptions of denudation and weathering leap out to the lined scarp and that of aqueous deposition to the level plains. The duality of nature and mind is solved for him in the unity of constructive experience.

If any strange feature emerges it does not drive him non-plussed to his daily paper. He notes it as something whose alien character is to be reduced in the laboratory of his mind. If it baffles him now he will annex it later. It remains on the outer edges of experience to be woven into its organic unity in due time. Something of this sort is what is meant by the series no tenure, leasehold tenure, and freehold tenure.

We have then in this polarisation of the environment to the self, as illustrated in the case of C, what is to be understood by the science stage of adjustment. It is mediated by the intellect, but not by the intellect only. Conation may, indeed, be said to throw the shuttle. Without the forward, charged attitude of the ego, data are not woven into the fabric of experience. The difference between this stage and the previous, nature study, stage is, we may repeat, first this emergence of the ego as the dynamic centre of adjustment. It was there before as a factor; and we may add as an *à priori* postulate, for an inert ego in experience is a conception which does not satisfy reason. But the time was not ripe for its emergence. Its activity at previous stages, the "thing" stage of object lessons and the "whole" stage of nature study in the narrow sense, even with its causal implications and emotional colouring, could not be isolated. At this stage, however, we can distinguish (a) the data, *e.g.*, the flat-tops and igneous intrusions of our example, and (b) the conceptual addition, *e.g.*, denudation, which throws the web of the ego over the given, attaches it, annexes it, brands it, makes it organic in experience. It is the victory of mind; and though matter does not become mental because mind thus takes hold of it, it does somehow offer lines for the net. And since the net consists of an ideal conception, matter must be at least susceptible of ideal manipulation. It is intelligible. Dr. Ward has no doubt where intelligibility leads. "We find implied," he says, "that essential oneness of thought and being that recognition of the intelligible by intelligence that greeting of spirit by spirit, for which idealists have always contended . . . what is essential to every true idealism or spiritualism—the spontaneous activity of the greeting intelligence."¹ The reader can exercise the freedom which is his. He can accept or reject the

¹ Naturalism and Agnosticism, Vol. II, p. 254.

inference of the ultimate spirituality of reality from its intelligibility. Only if he rejects it the onus will be on him to account for the latter.

This contribution of a conceptual bond holding together the data of experience we must repeat is not the first indication of the synthetic activity of the subject. Our starting-point was the unity of experience with the subject at one pole. At an early stage we found the source of the unity of things in the unity of experience. Kant's theory of space and time as forms into which the manifold of sense falls and thus gets coherence, is now generally discredited. It involved a mechanical adjustment of subject and object, and this could not bridge the Cartesian gulf between mind as thinking substance and matter as extended substance. Perhaps no more could be expected, for even the greatest of thinkers cannot wholly shake off the pervasive influence of the thought of their time; and in Kant's day mechanical and mathematical conceptions held the field. When biological science developed and man's relation to his environment was conceived organically rather than, or at any rate as well as, mechanically, when the doctrine of evolution extended its sway, when psychology began to be treated after the manner of biology, when psychoplasm took its place alongside protoplasm, and Dr. Ward taught us to regard psychical developments as the differentiation of a continuum, when, finally, Bergson came forward with his theory of creative evolution, then it was possible, not, indeed, to bridge the gulf, but to do more, to eliminate it as a first postulate. So that from the very genesis of experience the subject and object are but two aspects of a unity. The contribution of the subject to the coherence of experience may be assumed from the start of conscious life. The science stage of development is distinguished from previous stages, not by the appearance of a new element, but by the fact that this element now becomes articulate. We can clearly distinguish it at this stage of adjustment. Phenomenal data are explicitly appropriated and woven into the texture of experience by means of a scientific conception. It is no exaggeration to describe this stage as a mental revolution. Law and universality are adumbrated. They are not at first grasped in their full implication, of course, but the rubicon which divides chance from

order, the mysterious from the intelligible, the empirical from the rational, has been crossed. The foothold is that of freedom, the first world is a freehold heritage and the student can confidently set about the task of adjusting his holding to himself.

§3. It is important to note also that in entering on his freehold heritage in the world of nature the student also enters a world of thought, the world of scientific achievement. Indeed his adjustment to the world of nature will have been made possible by the environmental effect of the "transparent world of minds." The scientific conception which clinched his real adjustment to the natural world was already there in that transparent world. His teacher or a text book may have put him on the track of it, or some analogy or suggestion operative in his own mind may have evoked it, how we cannot say. But whatever its immediate source, its reality for him means also real membership of the community whose knowledge he now shares, in however small a degree. The mental revolution has been both individualistic and social. This passport carries him into the world of scientific thought—a social possession—as well as into the world where law and uniformity obtain. "Human life does not occur in a vacuum, nor is nature a mere stage-setting for the enactment of its drama."² He awakes to find that he shares the common mind which modern psychology is beginning to investigate, a community of spiritual wealth which, however, detracts in no way from his own individual and freehold possession. We are here, indeed, face to face with the fact that the first and second worlds are organically related in the unity of experience. Scientific knowledge is a common social possession. The student is adjusted to both worlds at once. We begin to see what the individual and the common mind really are, and how they are related. It is not the huddling together of the unadjusted which overcomes the isolation of individuality. There is no common mind in a herd of cattle, only a common sensitivity. It is through the jostling of the thoughts of free men, thinking conceptually, that the common mind emerges.

Bergson says: "The evolution of life in the double direction of individuality and association has . . .

² Dewey, Democracy and Education, p. 267.

nothing accidental about it: it is due to the very nature of life."³ He is here speaking of life in the widest sense, i.e., that of biology. We are considering a mental fact, one of psychology, and the 'double direction' applies to it with special emphasis. Dewey puts the point plainly and forcibly from the educational point of view. He says: "Every individual has grown up, and always must grow up, in a social medium. His responses grow intelligent, or gain meaning, simply because he lives and acts in a medium of accepted meanings and values. Through social intercourse, through sharing in the activities embodying beliefs, he gradually acquires a mind of his own. The conception of mind as a purely isolated possession of the self is at the very antipodes of the truth. The self *achieves* mind in the degree in which knowledge of things is incarnate in the life about him; the self is not a separate mind building up knowledge on its own account."⁴

§4. But the self has to emerge. That is another aspect of what a real freehold footing in the two worlds of nature and mind means. Scientific adjustment to nature implies two things at one and the same time. Objectively an ordered universe comes into being potentially if not actually. Its unity, continuity, and uniformity emerge, in embryo of course, through this revelation to the individual that its phenomena are amenable to logical manipulation. As the embryo develops, as experience becomes more and more rational, as the logical grip becomes more certain, so the area of order, of subjective conquest, extends; and even if it does not extend very far, the idea of the first world as a realm of law will become real. Subjectively there is correlative development of the same vital and far-reaching character. The pupil finds himself in finding a world amenable to his thought, and, what is equally important, responsive to his conative and emotional needs. His curiosity has found a satisfying goal; his wonder is no longer that of the savage, tinged with fear, but that of the pioneer, tinged with what Dr. McDougall calls positive self-feeling. In the victory of thought and conation, with its accompanying emotional thrill, the higher self is realised. The reduction of the world

³ Creative Evolution, p. 275.

⁴ Democracy and Education, p. 344.

to order means the exaltation of the self to power. Man's worth and dignity emerge and the transforming power of this experience is heightened by the thought of membership in the "transparent world of minds." By virtue of its footing in this spiritual sphere, gained by wrestling in the natural sphere, the rational, social and ideal self comes to the birth. This double-edged process through which an ordered material world emerges on the one side, and the self which has given it order on the other, is, of course, the central position of Kant's Critique of Pure Reason. As Dr. Caird says : "It makes us regard the external world as not only revealed to mind but as coming to self-consciousness *in* it, and the mind as coming to the consciousness of itself only as it goes out of itself to determine objects."⁵ The external world coming in and the mind going out are perhaps difficult ideas to grasp. The meaning is that in any bit of experience which may be called scientific, reading running water into rounded pebbles for example, this give and take occurs. And we may say, as we please, either that the fact owes something to the thinker, or the thinker owes something to the fact. Both statements are true, for they reflect two facets of reality. We can hardly help inferring, too, that mind and nature must be very closely related for this dove-tailing to go on. To quote Caird again : "It must explain the world as the self-manifestation of a spiritual principle . . . a manifestation not only to but in spiritual or self-conscious being."⁶

§5. It is clear that this forward movement to the scientific position means a much surer foothold for the thinker. Whichever of the two facets we look at, the world ordered by the thinker, or the thinker finding himself in the very act of being adjusted to the world, that point is evident. And the educational advantages do not stop here. A surer foothold in the first world gives confidence and self-reliance in the second, and may do the same for the third. It is inconceivable that a student who has learnt how to adjust himself firmly to nature and it to him, by means of the grip which science gives him over its data, even if the area of conquest be small, will be blown about by every wind of doctrine, and be in the same danger of losing his equilibrium when temptation comes. We have, indeed, what may be called a common

⁵ The Critical Philosophy of Kant, Vol. I, p. 423.

⁶ Ibid, Vol. I, p. 425.

measure of our three worlds in the subjective fiat which makes a natural fact, a historical event, or a moral end, a pupil's own. We may note, too, that he is more likely to develop this habit of branding the objective with his own mark, a yea of acceptance or a nay of rejection, in the first world than in the second. The reason is that it is so much more easy for him to manipulate. He can shape it, create, more or less, his own conditions for it. Moreover it is impersonal. History, on the other hand, is not only the story of the acts of his fellows, done, like his own, from motives which it is very difficult to assign with certainty; but being a story, and thus confined to the medium of language, it comes to him at one remove from reality. In other words, nature-study and science may without any forcing of theory be said to be naturally and logically prior to human-study and history. The former is the high road to all-round stability of adjustment. Plato was following a sound instinct when he decided to keep a close watch over the poets and a close censorship over literature. The very variety, flexibility, and subjectivity of literature, and to a less but still real degree of historical records, makes adjustment difficult, if the pupil has not first learnt to stand on his own feet in the world of nature. If he has, he will be far less likely to be carried away by the artificial and the conventional in history, or by the transitory and the fragmentary among moral values. Of course these will not be immediate results of nature study and science. There is no royal road to stability of adjustment. It may be safely said, however, that if real scientific annexation is practised at the lower end of a secondary school, rational stability is more likely to be a characteristic of the upper end of it. That science should go before history, that adjustment to the first world should be, so far as possible, made good before the second is explored, is an order of procedure also suggested by the history of human thought. First mechanics and mathematical science, then chemistry, and finally history and the evolutionary sciences, has been the order of development in modern times. The static, all-given, intellectual stage preceded the dynamic, progressive and evolutionary stage. If the history of human thought is a safe guide for order of treatment, as is so often asserted, adjustment to the first world should be the vestibule to adjustment to the second.

Apart from the question of order, this passing over from nature to society and civilisation, is of fundamental importance because it almost compels us to think of adjustment as a single process. We have distinguished three directions in it if only because so large a unity as reality has to be split up in order to be dealt with. But we shall see all along the course of treatment that adjustment to one order implies or involves adjustment to one or both of the others. If the distinction of separate worlds, necessary though it may be, has yet always to be looked at critically lest artificial rifts appear where continuity really is, how much greater is the danger if the unit of treatment is not a world but a subject of instruction. There is, indeed, what one might call an atomistic fallacy in much educational theory corresponding to the psychological fallacy of faculties. Subjects are dealt with as independent units by independent specialists so that the curriculum is a mechanical mixture rather than an organic whole. Professor Sadler is emphatic on this point. Of secondary schools, and especially those for boys, he writes : " Science has secured a place in their curricula, a firm place and respectful recognition, but scientific method and the spirit of science have not yet influenced the whole of the intellectual life of the schools, have not yet remoulded the ways of teaching in other than what in the narrower sense of the words are called scientific subjects. There is still in these schools (and in many others affected by their example) a discontinuity which indeed is in some degree unavoidable, between the subject-matter of the scientific courses and that of the other parts of the curriculum. But worse than this, there is a conflict of presuppositions, a difference in intellectual focus which could be greatly lessened, and which, even when not consciously realised, is injurious to those who learn."⁷ In a word, Professor Sadler would counteract the atomistic tendency by making each side of schooling identical in one fundamental respect : each should offer a freehold footing for the individual. He speaks of " a passion for intellectual freedom " and of " indignation at obsolete restraints upon the mind."⁸ Can any one fail to share them ? The difficulty is to shake off the inertia of tradition and conven-

⁷ Broad Lines in Science Teaching, Introduction, p. xxiii.

⁸ Ibid., p. xx.

tion. The conception of free individual adjustment, if translated into dynamic life, would give unity to a dozen artificially disparate subjects, let alone to three perhaps artificially disparate worlds. Half a dozen specialists seated round a table with the head of the school in the chair, if all were really in earnest, would evolve a *modus operandi*. They would resolve that conflict of presuppositions which Professor Sadler deplores.

§6. Something like a quarter of a century ago a revolt against dogmatic methods was led by Professor Armstrong, and other eminent scientists, as well as a large number of teachers of science, aroused from their dogmatic slumber, joined in the crusade. It was perhaps natural that the movement should start among enthusiastic students of nature, for in this particular sphere a better way was easy to discern. It was nevertheless unfortunate that the area of reform was not broadened so as to include the question of the teaching of all subjects or, as we should prefer to put it, of the adjustment of the individual to all the conditions under which his life as a rational being must be lived. Dogmatism is an obstacle to free development and adjustment in all spheres, and if the humanist had developed the critical attitude along with the scientist, the differences of intellectual focus to which Dr. Sadler refers might well have been diminished if not entirely removed. There is no question, however, that partial as it was, if we think of adjustment of the whole individual to the whole universe, material and spiritual, as the aim of schooling, the reform advocated was sound and went down to fundamentals. Certainly far-reaching changes were urged. Where exposition, authoritative statement, and the dominance of the text-book had been, discovery, free criticism, and individual records were to be. Where previously all had been taken for granted, now everything was to be sifted and tested by the individual for himself. He was to set out upon an independent search after truth; and it followed that at least to some extent and so far as befitted his capacities and so far as opportunities permitted, he would take the same track as the pioneers had trodden. The qualification is necessary, for no sane protagonist of what was perhaps unfortunately labelled the heuristic method, ever urged that every step should be repeated by every pupil.

Understood within rational limits we think the reform emphasises an essential element in the adjustment of the individual to the whole of reality which he shares.

It was natural that enthusiasts whose work and interests lay mainly in the physical sciences should find inspiration for the details of reform in the history of their development. The experimental and mathematical work of Galileo, Huyghens and Newton had laid the foundation on which the vast modern superstructure of these sciences rests securely. A boy could not do better than begin with work in the laboratory, with weighing and measuring things, and through such experimental and quantitative manipulation find his own way to truths and formulæ which his predecessors had to accept without question. Theory and practice support this view. Professor Dewey sees a cardinal principle here and generalises it with the philosophic sweep and penetration which characterise his great work entitled "Democracy and Education." Distinguishing direct or immediate from "mediated" or representative experience, he observes : "Direct experience . . . must be of a sort to connect readily and fruitfully with the symbolic material of instruction. Before teaching can safely enter upon conveying of facts and ideas through the media of signs, schooling must provide genuine situations in which personal participation brings home the import of the material and the problems which it conveys."⁹ This puts the truth universally. It applies to, say, the direct method of approach to a foreign language as well as to the introduction to science. Of the latter he says : "The first and basic function of laboratory work, for example, in a high school or college in a new field, is to familiarise the student at first hand with a certain range of facts and problems—to give him a 'feeling' for them."¹⁰ In our phraseology he must be adjusted to the first world of nature and then we may hope that he will be adjusted to science as a strand in the fabric of the second world.

So that we may rejoice at the spread of laboratory provision in secondary schools which was the first fruits of the work of our own reformers in the field of science teaching and which is the outstanding feature of the development of

⁹ p. 273.

¹⁰ pp. 273, 274.

these schools during the last twenty years. It provided the essential condition for the first step in scientific adjustment to nature. We may here quote from the Report of the Natural Science Committee : " In the last twenty years circumstances have altered ; laboratories have multiplied, and it has become the practice to make laboratory work the central feature in school science. This change of point of view has had both good and bad results. On the one hand it has brought home to many boys and girls the fundamental notion of an experimental science, that the answers to questions on its subject-matter can be got directly by experiments which they can do themselves : they have seen how a series of experiments leads up to a result, how the result of one experiment suggests that another is needed ; they have, in fact, learnt something of the experimental method of the sciences. Such teaching and experience is of the greatest value, and any change which would diminish its effectiveness would be a step in the wrong direction."¹¹ Again venturing to translate into our own terms, we should say that the extension of laboratory work has, or should have, given the pupil a freehold footing in nature. That is the fundamental thing, prior to an acquaintance with the experimental method of the sciences. The two aims, adjustment to nature and adjustment to science, must, we maintain, be kept distinct, at any rate in the mind of the student of educational theory. No doubt they are attained more or less contemporaneously. The focal and marginal activities of presentation make their unity secure. But nature as a focus comes first in the logic of adjustment.

It is perhaps through oversight of this fundamental truth that the extension of the laboratory method has failed, as it would appear, to bear the full fruit which might have been expected. The harvest seems to have been nothing like the promise. We must be permitted a lengthy extract from the report of the Committee on this point : " On the other hand there have been unfortunate consequences ; many teachers have become so dominated by the idea of the supreme value of experimental work that they have left on one side and neglected those sciences which do not lend themselves to experimental treatment in school : the tendency has

been to restrict the work to parts of physics and chemistry in which the boys can do experiments for themselves. We are driven to the conclusion that in many schools more time is spent in laboratory work than the results obtained can justify. We do not underrate the importance of such work; on the contrary we regard it as an essential part of science teaching. But sometimes the performance of laboratory exercises has been considered too much an end in itself—such an exercise loses the educational value of a real experiment when it becomes a piece of drill; often exercises succeed each other without forming part of a continuous or considered scheme for building up a boy's knowledge of his subject. Sometimes a very imperfect experiment is done by all the pupils, when the point which it brings out could be better illustrated by an experiment performed by the teacher, on a scale and in a manner which would not be possible for the whole form. Insistence on the view that experiments by the class must always be preferred to demonstration experiments leads to great waste of time and provides an inferior substitute. The time gained by some diminution in the number of experiments done, and especially by avoidance of unnecessary repetition of experiments of the same type could be well used in establishing in the pupils' minds a more real connection between their experiments and the general principles of the science or the related facts of everyday life. Much of this waste of time is due to a conscientious desire of the teachers to encourage the spirit of enquiry by following the so-called heuristic method; the pupils are supposed to discover by their own experiments, with little or no suggestion from the teacher, the solutions of problems set to them or of problems which they themselves suggest. The spirit of enquiry should run through the whole of the science work, and everything should be done to encourage it, but it seems clear that the heuristic method can never be the main method by which the pupil acquires scientific training and knowledge. He cannot expect to re-discover in his school hours all that he may fairly be expected to know; to insist that he should try to do this is to waste his time and his opportunities.”¹²

§7. This is a weighty indictment, but it is to be noted that it is directed against the abuse of a principle and not

against the principle itself. The spirit of enquiry and discovery is emphasised as essential to what we should call real adjustment. It is indeed a case of that shifting of the centre of gravity of interest and conation from end to means which is a common psychical phenomenon, and which points to the paramount need for a constantly alert critical attitude. We might call it obsession of the instrument. And its danger is increased by the tendency of educational theory to lean unduly towards the disciplinary ideal, towards the boy or girl hypostatised, towards the individual pole of experience cut off from its natural inherent relation to the worlds which experience contains. It is the corruption of a sound principle through natural inertia combined with uncritical enthusiasm. Seeing in the mechanical multiplication of instances the essence of the logic of induction, searching for the key to literary appreciation in minute and constant analysis of figures of rhetoric, hoping for moral development from the cumulative effect of details of disciplinary routine, are instances of analogous obsessions. Dewey lays his finger unerringly on the point. "Exaggerated devotion to formation of efficient skill irrespective of present purpose always shows itself in devising exercises isolated from a purpose. Laboratory work is made to consist of tasks of accurate measurement with a view to acquiring knowledge of the fundamental units of physics, irrespective of contact with the problems which make these units important; or of operations designed to afford facility in the manipulation of experimental apparatus. The technique is acquired independently of the purposes of discovery and testing which alone give it meaning."¹³ And again: "Our attention may be devoted to getting skill in technical manipulation without reference to the connection of laboratory exercises with a problem belonging to subject matter. There is sometimes a ritual of laboratory instruction as well as of heathen religion."¹⁴ In the words of Professor Bateson: "The splendid purpose which science serves is the inculcation of principle and balance, not facts";¹⁵ still less should it serve the purpose of mere drill and discipline.

¹³ Democracy and Education, pp. 232, 233.

¹⁴ Ibid, p. 259.

¹⁵ Cambridge Essays on Education, pp. 134, 135.

It is no doubt due to the enthusiasts in the field of the biological sciences, in part at any rate, that there is a strong reaction against the formalism towards which laboratory work appears, in some measure at least, to have degenerated. Their point of view is, in one sense, diametrically opposite to those whose sphere lies in the physical sciences. They see the essence of reality in the evolution of new forms. It is life on its dynamic side which they have in focus. No doubt they hold largely to the theory of the mechanical basis of physical life, to determinism, and to the conceptual possibility of forecast as Huxley maintained it. And so far they are on terms with the physicists. But it seems safe to say that there is a radical difference of emphasis. For the biologist change, congenital variation, the evolution of new types is the fundamental feature, while for the physicist it is permanence, the old in the new, and uniformity. Recent developments of psychological, sociological and historical science, also emphasise the dynamic, evolutionary, biological aspect. It is thus easy to understand the obvious impatience which is sometimes displayed towards discovery as a principle or method of adjustment. "Not merely to the investigator," writes Bateson, "but to the pupil the interest of science is strongest in the growing edges of knowledge. The student should be transported thither with the briefest possible delay. Details of those parts of science which by present means of investigation are worked out and reduced to general expressions are dull and lifeless. Many and many a boy has been repelled, gathering from what he hears in class that science is a catalogue of names and facts interminable."¹⁶

§8. So the pendulum swings from one extreme to the other, and the student of education who has no basic and coherent theory to stand by is also in a position of mental oscillation. Everything points to the need for a science and philosophy of education developed from an independent educational position. As was pointed out in the introductory chapter, it must from the nature of the case be flexible and adaptable, evolving abreast of the development of the natural and the humanistic sciences and philosophies on which it must draw and to which it looks. But it must decide on and stand

¹⁶ Ibid, pp. 136, 137.

by its own theories of value. Only thus can it remain steadfast amid the battles and controversies of rival protagonists. It seems to us that the conception of adjustment does provide a beacon whose light is distinguishable through all the smoke. The problem, like most, turns on a clear definition of terms. If we give to discovery the meaning of real annexation, branding phenomena with the hall-mark of individuality, gaining a freehold footing in the world of nature first and the world of science next, it is not a method of adjustment, but adjustment itself. Then the question how far back we start is a derivative one, relative to the material with which we are dealing. The biologist may find it more stimulating to get quickly to the growing edges of experience but he must follow the beaten track in order to arrive there. If we remember the boy and the girl, whom the enthusiasts are so often inclined to forget, we shall be chary of taking short-cuts. There is a very real sense in which the main stages of experience must be repeated in individual as in new social and national developments. So that the teacher of the mechanical sciences will stand by his weighing and measuring, and his quantitative manipulation generally. After all, the laboratory is the institution which represents more convincingly than any other the downfall of dogmatism and the victory of free thought. Only he must be aware of obsession of the instrument. And it does seem that adjustment is a light which shows up the pitfalls.

It throws light, too, on what is, after all, a matter of common sense, and may safely be left to the discretion of the alert and critically-minded teacher : the question, that is, whether discovery, in the sense of adjustment is to be unaided. Manipulation of the material of presentation by the teacher should stop short, finally short, of dogmatism. But does he vitiate the method of discovery if he throws out a suggestion or an analogy as a clue? Surely not. If it is from the pupil that the spiritual flash comes : the final clinch in adjustment, the making of the object one with the subject, the weaving of the nexus so that nature becomes organised in the tissue of experience, cognitively, aesthetically and most important of all—conatively, we seem to have the essence of the heuristic method. As Dewey puts it: "We are concerned with originality of attitude which is equivalent to the

unforced response of one's own individuality not with originality as measured by product. No one expects the young to make original discoveries of just the same facts and principles as are embodied in the sciences of nature and man. But it is not unreasonable to expect that learning may take place under such conditions that from the standpoint of the learner there is genuine discovery."¹⁷ There may be any degree of suggestion, from zero to what the master feels to be appropriate and called for. That is a secondary and a derivative point, one of method. But the individual clinch is what constitutes adjustment and it is fundamental, a point of principle. Bateson says that "agnosticism is the very life and mainspring of science." That is the same principle put in a negative but more arresting way. A contrast with what we take to be the desirable initial attitude towards literature may help. It will be developed more fully in the second book. All we need say here is that it is the direct opposite of agnosticism. Nevertheless the final attitude to literature, history, and the second world generally is the same as the initial attitude to the first world. Borrowed opinions, second-hand pronouncements, to whatever sphere they refer, are the negation of adjustment.

§9. It will perhaps be helpful to summarise the conclusions so far reached in this chapter before proceeding further. The stage of adjustment to the world of nature which science represents means a shifting of the dynamic centre from the objective to the subjective pole within experience. At the nature-study stage constraint is mainly from without, as the common expression goes; at the science stage it is mainly from within. This shifting is a critical phase in individual development: it implies a freehold footing in the first world, the emergence of the ego as the primary pole of adjustment. It implies also a footing in the second world, for science is a social possession. It does not, however, mean the appearance of a new element in experience: it is a modification of emphasis. And a double-edged modification: objectively an ordered world, subjectively a synthesising power, mind as a constructive agency, self-realisation. This synthetic power may pass over into the second and third worlds; it may give stability amid the flux of opinion and the

¹⁷ Ibid, p. 354.

constraint of the lower self. As a common measure of adjustment to three worlds, it may do something to remove artificial divisions, atomicity, among subjects of instruction. The so-called heuristic method was a sound reform because it started out from the individual as the dynamic centre in adjustment, and the laboratory was, and is, an instrument directed against dogmatism. That an obsession of the instrument developed is no valid indictment of the method: the development of biological science and the application of its principles to humanistic sciences perhaps accounts, in part, for the reaction against the method of discovery. If the latter is defined as a means of gaining a freehold footing in nature it is the equivalent of adjustment. How far back we go, and to what extent discovery is to be unaided, then become secondary and derivative questions. The conception of adjustment seems to give us an educational standpoint from which rival theories of method fall into a true perspective of value.

§10. We shall have to return to the central and cardinal question of the interaction of subject and object through which nature becomes an ordered whole within experience and, in particular, to the contribution of the subject to that order. It will be convenient, however, to postpone it until we have considered what aspects and features of the fabric it will be possible and profitable to investigate during the time available for schooling. A selection from its totality must clearly be made. Adjustment means nature becoming intelligible, becoming really alive and organic within the continuum of experience. But time and opportunity are circumscribed, while nature and science are infinite; so that a choice of material is inevitable. At the same time the amount of it is not the ultimate criterion of success. That is rather potentiality and promise at the growing edges of experience. The pupil must, by schooling, be brought to realise that his experience has developed grappling power which he can exploit as impulse and opportunity call. If that is the result of his training in science, adjustment will have been so far achieved. In addition to the area actively explored the alien will have become so far potentially akin. That is a fundamental point in a theory of education. It would be foolish, of course, to say that the area of adjustment, the number and nature of the

objective foci, do not matter. But of far greater importance is potentiality for further adjustment. In other words, power rather than sum of attainment is what we want, at all events at the school stage. Bearing this in mind we may pass to the question of selection. Put quite simply and plainly it is this: With what aspects of nature and science can the pupil be put *en rapport* during school years? Before considering it at the level of the different sciences it will be well to look a little deeper. They have their protagonists who are scientists before they are educationists and the inertia of tradition is great. We may as well take a leaf out of the scientist's book and try the "tonic of agnosticism" which Bateson recommends.

Let us glance at the problem of selection as educationists without predisposition or prejudice, and close our ears for a moment to the clamant voices of the enthusiasts, at any rate until we have found our own foothold. On the one hand we have the individuality of the pupil. Why not apply the conception of individuality to nature? It may give us a clue to the adjustment of the two. Her framework or skeleton at once emerges. We see a mechanical system of which the parts are in unceasing action and reaction. They form a whole whether separated by millemetres or by distances measured in light years. The genius of Newton has extricated and estimated the force of the gravitational link. We see next a complex of physical energy; sound, heat, light, magnetism and electricity, for every playing through the mechanical framework. It is an individuality whose shivers are tempests, whose twitch is the lightning and rustle the thunder; whose eyes are the sun, moon and stars, whose glance is light and heat, whose nerve tension is electrical. When we shorten our focus and look down we see, thirdly, affinity and repugnance among elements, union and disunion, marriage and divorce. Fourthly, we realise that this mechanical and physical framework has been clothed with the miracle of life. The inorganic and the organic have been fused. And we discern something which looks uncommonly like the purpose which we are conscious of as moulding our own progress. We ponder over this feature of adaptation and the Darwinian, Lamarckian and Bergsonian interpretations of it occur to us. Is it just mechanism or is there

teleology also? At any rate there is individuality, a whole which gives meaning to the functioning of the parts. And the evolution which is shaping its future, has been at work in the past. What we see is a product as well as a process. It looks both backward and forward. This is the individuality of nature, in all its complexity. How are we to select points of attachment, foci of adjustment, in such a totality?

But the complexity is what, for our purpose, must be ignored. If attention halts before the infinity of parts and their relations, the problem of adjustment seems insoluble. The universe as a whole, in its undividedness, can be taken hold of by the mind, its immensity notwithstanding. And it is to this aspect of it, its unity, that such adjustment as is possible at the school stage should be made. As has so frequently been said, we must, for the purposes of theory, of clear thinking, keep nature and science distinct. A coherent body of scientific doctrine, that of chemistry, physics, or botany for example, is not the objective, but a coherent universe. Put in another way, it is not the complete investigation of such a phenomenon as the root-feeding of plants or the path of a projectile—the scientific ideal—which is the aim. We shall, of course, take care to proceed scientifically, and to make sure of the facts and factors, so far as we go. But it is the significance of the phenomenon as an expression of some aspect of the individuality of the universe which is of importance for us. It may be urged that we are proposing something more difficult. That is a misunderstanding. It is a question of the degree of abstraction. Too great a measure of it is to be avoided. It is not so much the mystery of osmosis as the dependence of organic development on inorganic materials which should be emphasised in root-feeding; similarly, it is not so much the elements of the parabolic curve as the broad universal fact of the composition of velocities which is the point of the path of a projectile for school pupils before they are capable of specialisation. History courses for schools are elaborated, or should be, so as to throw light on the evolution of humanity as a whole, although the focus may be a single nation; so science courses should be developed so as to give the pupil a point of view from which he can appreciate the physical universe as a

whole. Applying this principle we may assert that school science should subserve the adjustment of the individual to the universe as a sphere (a) of mechanical and physical energy, (b) of chemical reaction, and (c) of organic life and evolution. These are fundamental aspects and revelations of its individuality and a place should be found for all of them.

If this is to be done, however, science must divide the available school time with the humanities, just as life is divided between adjustment to nature and to men. We agree entirely with the view put forward by Mr. Badley : "We are now in a position," he writes, "to answer more definitely the question how large a place science should occupy in the school curriculum. It is assumed that it should form a part, and a considerable part, for all, during at least a part of the school course. If together with science we reckon mathematics—taught in the earlier stages at least as an experimental science in which nothing is accepted without direct evidence, and submitted to the fullest possible verification—and also the various kinds of practical work (gardening, cookery, care of animals, woodwork, measurement of all kinds, and so on) out of which science should grow, and which should be intimately connected with it throughout the whole course, this group of subjects should, it seems to me, in the earlier or general stage of education, up to the age of sixteen or so, occupy as large a place in the school time-table as the other equally important group of studies dealing with language, literature, and the arts."¹⁸ We may add that the whole course, the nature lessons of the kindergarten, the nature study, including geography and physiography, of the transition stage, and the science, as we have attempted to define it, of the secondary course up to the age of about sixteen, with, finally, some more specialised study at the end of it—must be organised and dovetailed so as to form a coherent whole, with the same care as has been devoted to humanistic studies. Bateson's position is unassailable. "We plead," he says, "for the preservation of literature, especially classical literature, as the staple of education in the name of beauty and understanding: but no less do we demand science in the name of truth and advance-

¹⁸ Broad Lines in Science Teaching, p. 10.

ment."¹⁹ If anyone should say that it is impossible to compass both effectively we may answer in the words of Dean Inge: "The aim of education is the knowledge not of facts but of values."²⁰ In this case it is the value of phenomena as features revealing the unity of nature.

Bearing in mind, then, that it is phenomena on their representative side, that is, as revealing the working of nature as a whole, in its individuality, rather than as details of the doctrine of any special science, which should be the aim of school teaching, we may go on to the question of selection. The features which point to this individuality most plainly are first, its working as a physical mechanism, secondly, its chemical structure and reactions, and, thirdly, its organic and evolutionary processes. These we were able to discern by means of the comprehensive glance a moment ago attempted, in order from our own educational point of view, to find foci for adjustment. For the investigation of each of them we have the support of the Committee on Natural Science. It appears that the third, nature on its organic and evolutionary side, has been generally neglected, so far, at all events, as boys are concerned. To that point and to the overwhelming arguments for including it, if adjustment is to be in any sense adequate and complete, we shall return. Before dealing with the problem of selection as it concerns the first two, we may be allowed a further word about the principles to be observed in dealing with the material selected. Of the vital principle of discovery in the sense of real individual annexation nothing more need be said. The representative character of phenomena, that is, their meaning and value as clues to nature as a coherent whole, referred to above, is, however, also vital and fundamental. It will be necessary constantly to cut out phenomena from their context in reality. That is what experimental investigation means, and abstract investigation generally, whether accompanied by experiment—the creation of conditions—or not. But we must replace after cutting out. We must dovetail the truth we reach in abstraction into the fabric of nature again. When, for example, the mechanical effect

¹⁹ Cambridge Essays on Education, p. 145.

²⁰ Ibid., p. 12.

of running water has been observed, and the chemical effect of solution examined in the laboratory, we must step over to the erosion of river channels and, say, caves in dolomite beds. When the law of sines disclosed by the refraction of light has been proved at the optical bench, we must pass on to the real and apparent positions of the sun and the other stars. When the parallelogram of velocities is clear on the blackboard we must search until we find it in the moon's orbit or the path of a projectile. The fabric of nature must be the focus of final adjustment, behind the coherent body of scientific truth and giving the warmth of concrete reality to it. The point cannot be emphasised too strongly. The discipline of really scientific thinking we shall see that we get, but from the point of view of school science it is an incident of the march. That objective is adjustment to a world. The logic of investigation is a bye-product of the process of making the individual a freeholder in his environment. This principle seems to us to run through all the recommendations of the Natural Science Committee's Report. It is clearly to be seen in the following for example: "A course in science for boys up to the age of sixteen should be . . . designed so as to give special attention to those natural phenomena which are matters of every day experience, in fine, that the science taught in it should be kept as closely connected with human interests as possible."²¹

§11. To bring the question of selection to a focus it will be convenient to examine one or two actual syllabuses. There seems to be grave doubt, an almost unnatural hesitancy, about putting a complete syllabus forward to be considered. The feeling is healthy. The science master, and indeed every master, whether of science or any other subject, should be free and ready to work out his own line of approach. If he is not, his presentation will not carry the hall-mark of individuality. He will feel that he is using borrowed tools, manipulating an artificial medium, and his work will inevitably lack living artistic quality. Moreover, since the first aim is the organic unity of his pupils with such features of their immediate environment as can be woven into the fabric of experience, it is clear that the first condition of success will be a local survey, an estimate of possibilities, undertaken and

worked out by the master himself. But that is no reason why the details of a scheme worked out under other circumstances should not be a help. Medical men and lawyers follow up the records of cases to the last detail without detriment, it may be assumed, to their power to analyse and diagnose a new case in its own history and setting. If it is clearly understood that a syllabus is but an orderly survey of the ground to be covered and a clue to possible ways of approach, there should be no danger of loss of freshness and originality from a careful consideration of it. It may indeed show what to avoid or what to modify. The important thing to know is whether it has been thoroughly tried and proved to be a practical scheme.

The following is a course developed for the guidance of teachers in Transvaal schools. In the words of this essay it is intended to indicate the range and possible stages of adjustment to nature. So far as range goes we are limited by the requirements of the Joint Matriculation Board for the three universities of South Africa. A scheme for a Leaving Examination for secondary schools under departmental control has been worked out which, if it is accepted, will give the freedom from externally-imposed restrictions which we think ought to obtain. As to stages of adjustment, teachers are given a free hand in respect of the last four years of the course. The following is the departmental instruction bearing on this question of freedom : "It is necessary to state in the plainest possible terms that these courses are typical and illustrative only, and that it is not intended to take away anything whatever of the freedom which teachers, especially those doing secondary work, have hitherto enjoyed. . . . In the years beyond the sixth especially both sequence and detailed content will remain at the discretion of the teacher. The final examination will, of course, determine the total content." It should be explained that the complete school course comprises the ten years referred to in the syllabus, with, in addition, a preparatory period usually occupying one and a half or two years. The first year of the ten is taken up with the work of what is known as Standard I and the last is the matriculation stage. The primary course extends to the end of the sixth year, but it is intended to introduce a change and make the end of the fifth year the point of

transition to the secondary course—a reform for which reasons are given elsewhere.²² The age of admission to public schools is six years, so that a pupil taking one and a half years for the preparatory course and a full year for each of the ten would be seventeen and a half at the end of his schooling. Progress is, of course, in some cases accelerated; but owing to the difficulty of keeping abreast of requirements—a difficulty common to all young countries—it is often retarded and eighteen may be taken to be an average leaving age. Boys and girls are usually taught together during the primary course, although there are numerous cases in the larger schools where a sex classification is adopted. In the larger towns separate secondary schools for boys and girls exist, whereas in the smaller urban centres the two sexes are usually taught together at the secondary stage as well as the primary. But separate science arrangements are usually made for the girls. Speaking generally the following course is an indication of what both boys and girls may attempt up to and including the sixth year and boys only from the seventh to the tenth inclusive :

A.—NATURE STUDY AND PHYSICAL GEOGRAPHY

Second, Third, and Fourth Years.

During these earlier years courses of lessons on simple natural phenomena or other media for developing the power of observation and, so far as is possible and appropriate, of inference must be followed. These form a natural and an interesting introduction to the more exact methods of science. Lessons constituting a series must be drawn up by teachers themselves. The series will vary between district and district, and even between school and school. There are two main reasons for this. One is that the lessons should bear upon the immediate environment, and the other is that they should reflect the teacher's own predisposition. At this stage the method of treatment is far more important than the object selected for treatment; and concreteness and vivacity are more likely to be characteristic of a course of lessons when they are selected by the teacher.

Fifth Year.

Land.—The distribution of the continents. Comparison of salient features. The distribution of the principal mountain ranges of the world. Comparison of salient features. Valleys, plains, and deserts. The chief differences and the relation between mountains and plains.

²² See pp. 251, 252.

Water.—The distribution of the oceans. Comparison of salient features. Movements of the ocean and the effect of these. Tides. Varieties of coast line. The distribution of the chief rivers of the world. Comparison of salient features. The work of rivers, denudation and deposition; donga, canyon and delta, with famous instances of the last mentioned. The distribution of the chief lakes of the world. Comparison of salient features. Evaporation and condensation; cloud, mist and fog. Rain and the most striking varieties of rainfall throughout the world. Snow and ice. The effect of frost on the soil.

B.—PHYSICAL SCIENCE.

Sixth Year.

I. Practical exercises on and history of the principal units of the British and metric systems and comparison of the same, specially centimetre and inch, metre and yard, kilometre and mile, kilogram and pound, litre and pint.

II. Measurement of lines. Measurement of area of triangle, rectangle and parallelogram, circle, surface of right cylinder and cone. Practical demonstration of the validity of the formulæ for the calculation of these areas. Area of the sphere. Volume of cube, rectangular prism, pyramid, cylinder, cone, and sphere, with practical demonstrations.

III. Latitude and longitude; meaning and measurement. The simple and direct effects of differences of latitude and longitude. Observation and recording of the movements of sun, earth, and moon; changes of season, of length of day, of altitude of sun, and of appearance of moon.

The following indicate what is required :—

Observation of the altitude of the sun at mid-day in summer, winter, and at the equinoxes.

Observation of the position of rising and setting of the sun in summer, winter, and at the equinoxes.

Observation of the length of time the moon is visible at each of the four quarters.

Observation of the time of rising and setting of the moon at each of the four quarters.

Observation of the position of the moon relative to the sun at each of the four quarters.

Observation of curvature and position of points of the waxing and waning moon.

Seventh Year.

I. Use of vernier, screw-gauge, spherometer, pipette, burette. Volumes of irregular solids. Weighing. Difference between mass and weight. Weighing methods for areas. Absolute density. Archimedes' principle. Specific gravity. Definition and determination for solids insoluble in water and heavier than water.

II. Air pressure : pump, syphon, barometer.

III. Heat and temperature: construction, graduation, and comparison of readings of thermometers.

Eighth Year.

I. Variations of pressure in a liquid with the depth; weight and pressure of air; the barometer; Boyle's law. Determination of specific gravities of solids insoluble in water and of liquids. Hydrometers.

II. Units of time.

III. Force : illustration and measurement of. Parallel forces and moments. Lever, balance, capstan, wheel and axle, pulley, and inclined plane. Hooke's law, bending of beams.

IV. Simple processes of filtration, solution, crystallisation, distillation, separation of simple mixtures of soluble and insoluble substances.

Effects of heat on common substances, introducing physical and chemical changes.

Ninth Year.

I. Heat :

Expansion of air. Charles's law. Calorimetry. Specific heat and its measurement. Liquefaction and solification; melting points; latent heat of fusion and its measurement in the case of ice. Vaporization and condensation; boiling points, effect of pressure; distillation, latent heat of vaporization, and its measurement in the case of water; cooling of air by expansion and formation of cloud in rising air.

II. Chemistry :

Physical and chemical changes. Elements and compounds. Combustion and the products of combustion. Oxidation. Water, its properties and decomposition. Purification by lime and by distillation. Forms of natural water. Solution of solids, liquids and gases. Preparation and properties of hydrogen and oxygen. Air and its composition. Nitrogen. Nitric oxide and ammonia. Nitric acid, chlorine and hydrochloric acid. Sulphur. Sulphurous oxide; carbon, graphite and diamond. Carbon dioxide. Lime. The characteristics of the metals. Acids, bases, salts; neutralisation.

Tenth Year.

I. Chemistry :

Laws of conservation and laws of chemical combination. Laws of gaseous combination, reduction of gaseous volume to standard temperature and pressure. Outlines of Dalton's atomic theory and Avogadro's hypothesis; calculations of chemical equations.

Bromine and iodine, sulphuric oxide, sulphuric acid, and sulphuretted hydrogen. The oxides of nitrogen. Phosphorus and its common oxides. Orthophosphoric acid; carbon mon-oxide. Marsh gas. Flame.

II. Physics :

An elementary knowledge of the chief physical properties of matter. Distinctive characters of solids, liquids and gases. Pressure of water-vapour. Conduction and convection of heat.

(b) Force of gravity. Newton's and Galileo's experiments. Experimental study of the relation between the period of a pendulum and its length.

(c) Composition and resolution of forces acting at a point. Parallel forces acting on a rigid body. Centre of gravity and its experimental determination in simple cases.

A few comments may be offered. It will be seen that a course in nature study, including physical geography, is prescribed as an introduction to science. This plan has, as we have seen, the strong support of the Natural Science Committee and, indeed, is generally approved by all who realise that adjustment to nature must be a fundamental part of the education of all.²³ The general principles which should be observed in selecting material for this stage have already been considered.²⁴ We may add that Professor Bateson is a strong advocate of the biological line of approach. He says : " For most boys the easiest and most attractive introduction to science is from the biological side. Admittedly chemistry is the more fundamental study, and some rudimentary chemical notions must be imparted very early, but if the framework subject-matter be animals and plants, very sensible progress in realising what science means and aims at doing will have been made before the things of daily life are left behind."²⁵ And again : " From natural history the transition to the other sciences, especially to chemistry and physics, is easy and again natural."²⁶ Certainly natural history should be a main constituent of the nature-study introductory to science. Biology should also find a place parallel to physics and chemistry as we shall presently urge. Although there are no hard and fast lines of demarcation, nature study begins to taper off after the end of the fifth year. It occupies a fair portion of the course for the sixth. It is not mentioned in that for the seventh but the units of time in the eighth follow naturally from the observations of sun and moon included in the sixth. We may say that the fifth year course forms the transition to science which emerges in the sixth in the introductory form of units and measurement now more or less general. Thus, leaving out of account overlapping meant to secure continuity, four years' work in nature study and five in

²³ Cf. Essays by Von Wyss, Thomas, and Lalta in *Broad Lines in Science Teaching*, and by Nunn in J. W. Adamson's *Practice of Instruction*.

²⁴ See pp. 63-72.

²⁵ Cambridge Essays on Education, pp. 137, 138.

²⁶ Ibid., p. 139.

science are provided for. The latter include some general physics and chemistry, but no sound, light, or electricity and magnetism. If a course of elementary biology is to be taken parallel to the one now being considered, the three last-named physical sciences must be omitted or substituted in whole or part for the three first-named. Too much is far worse than too little if we are to give effect to the representative principle referred to above; and the course does provide for adjustment to nature on its mechanical side and also brings the pupils into contact with it as a manifestation of physical and chemical energy.

In the sixth year provision is made for both laboratory and open-air work. The one is meant to be complementary to, and indeed corrective of, the other. Both mediate adjustment. In the laboratory it is less direct, since the pupil is occupied in filling out perceptually the units he will have to apply and in assuring himself of the validity of the common quantitative formulæ. He may be said to be familiarising himself with and testing the tools he will have to use. In the open air or even in the class room when he is drawing inferences from his open-air observations, he will be in more direct contact with nature herself. In the seventh year his laboratory work passes naturally from volume to weight, whence conceptions of mass and specific gravity arise. From the weight and specific gravity of solids the transition to the pressure of the atmosphere and the instruments depending on it is easy. Moreover he keeps in direct touch with nature. In this year also the introduction to physical energy in the form of heat is made. In the eighth year the mechanical section is continued and developed so as to include the common machines. Siderial, solar and lunar units of time preserve the direct open-air relation, or ought to do so. Heat is followed up a little further while certain simple physical and chemical reactions are examined. At this point we may say that the extensive is replaced by a more intensive method of procedure. The ninth year is divided definitely between heat and chemistry, the latter being systematically taken up and continued through the tenth year, during which the heat of the ninth year is followed by physics of a more general character. In this last year, as will be seen, a more comprehensive treatment is proposed so that the pupils may get

an idea of those great generalisations and hypotheses on which the structure of the physical sciences rests.

Many masters modify this order either substantially or in respect of details. Some prefer to begin the chemistry earlier and postpone the mechanics. Others prefer to gather the heat topics together and deal with them in closer connection, in two consecutive years. Each is free to follow the line of approach which seems to him best. The course as outlined does, however, satisfy certain general conditions which theory suggests and experience proves to be sound. Extensive is gradually replaced by more intensive treatment. Taking up a branch, mechanics, heat or chemistry, during three and even four years makes it easy to arrange topics in the order of difficulty. Not more than one new science need be introduced in any year, and, what is even more important, no year's work will be confined to a single branch of science. The Natural Science Committee is emphatic on the last point. "It is very undesirable that the work of a form should be confined for a whole year to a single branch of physics; at least two of them should be taken; further, the scheme of work should provide for the recurrence of the various branches of physics in the course, to afford opportunity not only for revision of what has been previously done but for extension of the ground covered."²⁷ It is possible in the last year and to some extent in the last but one, with a good deal of the detail out of the way, to bring into focus the uniformities of most far-reaching application. To quote the committee again: "A general course in science should fulfil two functions: (a) it should train the mind of the student to reason about things which he has observed for himself and develop his powers of weighing and interpreting evidence; (b) it should also make him acquainted with the broad outlines of great scientific principles, with the way in which these principles are exemplified in familiar phenomena and with their applications to the service of man. The evidence we have received shows that there is a tendency to over-emphasise the first of these functions and to neglect unduly the second."²⁸

§12. Nothing that has so far been said needs to be

²⁷ Report, p. 25.

²⁸ Ibid., pp. 22, 23.

qualified when we consider the problem in relation to girls, save, perhaps, as regards selection of material. As to that, tradition and convention have demarcated a special field, indeed only slowly and even reluctantly has the appropriateness of any been recognised. While the inorganic sciences have been, in the main, the objective chosen for boys, botany has been the one generally selected for girls. This division is based on expediency rather than principle. No doubt some of the deciding factors have weight. The manual work of the laboratory and the workshop which is necessarily associated with the physical sciences seems to be more suitable for boys, although it would be difficult to prove, at any rate of the delicate and exact manipulation which the former calls for. The vocational criterion—the final and ultimate one if liberally interpreted, as we hope to show in a later chapter—has no doubt been decisive. Physics, chemistry, and mathematics are, in the majority of cases, in more direct relation to the life of the future bread-winner, than to that of the future mistress of the home. But with the incursion of women into the arts and professions, teaching and medicine for example, the vocational criterion will have to be revised. Again, there is much to be said for stress on utility for boys and on the æsthetic and the artistic for girls. If, however, we look at the question broadly from the point of view of adjustment we seem justified in saying that the spheres which have been marked out are both too narrow. Certainly it does not seem necessary to adduce any arguments to prove that for so much of physics and chemistry as are necessary for a rational approach to botany and hygiene, a place in the curriculum of girls should be found. And hygiene is an indispensable substantive addition we should maintain. There is, indeed, no ground of principle for rejecting a course in preparatory physics and chemistry common to boys and girls, for, say, the first two years of a five-year secondary course in science. And not only as an introduction to botany and hygiene but as a postulate of adjustment. The experience of a girl should be orientated to what we have called the individuality of nature. Its physical framework and life should be intelligible to her as to the boy. She shares the inheritance of science. Why should she not enter into it on this side? Probably the only reply at all convincing will be the difficulty of finding

time. On those who offer it will rest the onus of proving that a footing of intelligence in the realm of nature is of less import for life than other sides of adjustment. And it will not be an easy task, even if the appeal is in the interests of literature and the fine arts. For they find a perennial spring of inspiration in the "choir of heaven and furniture of earth." Even for their sakes the girl must carry a passport implying intelligent appreciation of the machinery of this sphere.

The following is a syllabus in hygiene.²⁹ It may be more helpful than one in botany in which the ground has already been thoroughly broken. It is proposed as defining the content of a course suitable for those girls who desire to present this subject at the final secondary school examination qualifying for matriculation. It is divided into three stages the details of which would be spread over the last four years of the secondary course following on an introductory course as outlined above for the sixth and preceding years.

A.—FIRST STAGE.

I. *Preparatory Physics.*

Density. Specific gravity. Principle of Archimedes. Determination of the specific gravity of simple solids, liquids, powders. Law of floating bodies. Hydrometers. Pressure of the atmosphere. Its measurement by barometer—Aneroid barometer. Pumps, syringes, siphons. Thermometer. Marking of fixed points. Thermometric scales (Fah. Cent.). Maximum, minimum and clinical thermometers. Expansion of solids, liquids and gases, illustrated by simple experiments. Charles' Law. Experimental proof. Absolute temperature. Change of state. Determination of latent heat of steam, and of water. Change of volume accompanying change of state. (Illustrative experiments.) Simple cases of such change in volume—ice to water, water to steam, paraffin wax: solid to liquid. Evaporation. Draughts. Effect of change of pressure on the boiling point of water. Conduction, convection and radiation. Illustrated. Good and bad conductors—application to clothing—ice chest—packing of pipes. Methods of heating a building on a large scale. Ventilation—winds—diffusion of gases. Good and bad radiators and absorbers of heat. Heat capacity of liquids—simple illustrative experiment. Water vapour in atmosphere. Dew-point. Wet and dry bulb thermometers. Relative humidity.

²⁹ It has been prepared under the supervision of Miss E. Aitken, head-mistress of the Girls' High School, Pretoria.

II. Physiology.

General build of Body.

Form and relative position of the bones of the body. Position in body and general form of the following internal organs : brain and spinal chord; pharynx; gullet; stomach and intestines; salivary glands; liver and pancreas; posterior nares, larynx; trachea and lungs; kidneys and bladder; heart and great vessels.

Blood and its Circulation.

Form and general structure of the corpuscles of the blood. General composition of blood. The course of the circulation (systemic, pulmonary and portal).

Respiration.

Structure forming walls of thorax. Organs contained in thorax. Structure of lungs. The respiratory movements. Comparison of inspired and expired air. Change brought about in blood, in lungs and capillaries during circulation of blood.

Muscular and Nervous Systems.

Description in outline of voluntary and involuntary muscles. Muscular action. Control by nervous system. General structure, taken in an elementary way, and arrangement of brain, spinal cord and sympathetic system. Functions of sensory and motor nerves compared. Average temperature of body ; sources of heat and body ; loss of heat. Regulation of temperature.

III. Practical Applications.

Breathing. Bad effects of mouth breathing. Exercise, fatigue, rest. Sleep, amount required at different ages. Care of skin, nails and hair. Baths ; hot, warm and cold. Use of soap. Teeth ; causes and prevention of decay. Clothing—hygienic values of cotton, linen, silk and wool as clothing materials. Cleanliness of clothing.

B.—SECOND STAGE.

I. Preparatory Chemistry.

Physical and chemical changes.

Elements and Compounds.

Preparation and properties of HOH and CO₂.

Law of conservation of matter.

Laws of chemical combination.

Dalton's Atomic Theory.

Avogadro's Hypothesis.

Acids, bases, salts ; neutralisation.

Common organic acids, e.g., palmitic, stearic, oleic.

Salts of these acids.

Fats and oils. Saponification. Manufacture of soap.

Emulsions and emulsifiers.

Action of soap as an emulsifier.

II. Physiology.

Food and its digestion.

Chief chemical compounds making up the body.

Elements contained in these compounds.

What constitutes food. Special value of different food constituents. Value of water taken as food.

Examples of foods containing a large percentage of each of the constituents. Behaviour of these constituents under action of water, heat, acids. Commonest food stuffs.

Detection of protein in meat, bread, beans, eggs; of starch in bananas, potatoes, bread, mealies; of sugar in milk, beet-root, carrot, fruit; of fat in yolk of egg, milk, nuts.

Choice and combination of foods.

Effect of cooking on the different food constituents.

Principles underlying the methods of preservation of foods.

Value as a food of drinks in common use, e.g., tea, coffee, cocoa, mineral waters, beef tea.

Cow's milk, its composition, comparison with human milk; sources of contamination, bacteria; effect on milk of cooling, sterilisation, pasteurisation; boiling. Action of lacto-bacilli; curdling of milk by acid; clotting of milk, effect on character of clot of sodium citrate and barley water.

Physiological effect of alcohol on body.

Changes produced in the different food constituents in (i) mouth, (ii) stomach, (iii) small intestines, (iv) large intestines.

Chemical action of the various digestive juices throughout the alimentary canal tract.

Structure of a villus.

Absorption and distribution of the digested products.

Excretion of undigested material.

Structure and function of the skin.

(It is considered advisable that two or three lectures on the "Reproductive System" should be given towards the end of the course by a medical officer. It is not intended, however, that the subject be an examination one.)

III. Practical Applications.

Elementary knowledge of soils and their value as building sites. Aspects for dwellings.

Value of different materials used in house construction. Points of importance in house construction, e.g., foundations; ventilation of space under ground floor; damp-proof courses, aspect of pantries and kitchen. Air. Composition. Properties. Impurities of air. Principles of ventilation.

Water. Composition. Characteristics of pure water.

Physical changes due to heat. Its solvent properties. Sources of water. Wells. Local water supply. Water as disease carrier.

Hard water and its causes. Temporary and permanent hardness.

Advantages and disadvantages of hard water.

Softening of water on a small and large scale.

Hygienic value of light in rooms.

Situation of earth or water closet. Use of earth and ash.

Disposal of dry refuse.

Danger of insanitary conditions prevailing in country districts.

Disease. Simple facts concerning infectious diseases. Mosquitoes, flies, fleas and vermin as carriers of disease.

Value and use of different disinfectants, e.g., Jeyes' Fluid, Carbolic Acid, Cooper's Dip, Bleaching Powder, Sulphur, Formalin.

C.—THIRD STAGE.

I. Hygiene.

General principles of simple organic chemistry.

Reasons for distinction between organic and inorganic chemistry.

The constituent elements of organic chemistry.

Classification of organic compounds.

Aliphatic compounds (methane series).

Paraffins or saturated hydrocarbons.

Addition and substitution.

Linking of carbon atoms.

Methane, Ethane.

The alcohols.

Constitution.

Fermentation. Theories of fermentation. Manufacture of beer, wines and spirits.

The fatty acids.

Acetic acid. Butter and butter substitutes.

Oils, fats and waxes.

Manufacture of candles.

Soaps—saponification—emulsions.

The carbohydrates.

Glucose, fructose, cane-sugar, milk-sugar, maltose, starch, dextrin, cellulose.

The proteids.

Composition — classification — albuminoid substances, gelatine.

(It is not intended that students shall make a detailed study of the above. Empirical and graphic formulæ are not necessary.)

II. Physiology.

Fermentation, its causes and prevention. Putrefaction.

The excretory system.

Chief waste products of the body and the organs by which they are excreted.

Teeth.

Structure of a tooth. Number and names of milk and permanent teeth. Age of eruption.

The senses.

Different kinds of sensations.

General structure and arrangement of the eyeball.

Parts of the eyeball traversed by the rays of light and alterations produced in the direction of the rays.

Essential facts of structure and arrangement of the ear so far as required to explain how sound waves are carried to organs of hearing.

Structures concerned in a simple reflex action.

III. Practical Applications.

Air. Calculation of quantity of air needed per hour per person. Effects of occupants on air of rooms.

Overcrowding. Mechanical devices for aiding ventilation.

Water. Storage of domestic supply.

Removal of suspended matter. Purification on a large and on a small scale.

Different methods for heating and lighting a living room and their effects. Construction of earth and water closets with street sewer.

French drains.

Hay boxes and grease traps. Vivian Poore trench.

Sewage disposal for town and country districts.

The coherence of the parts of this scheme, its progressive arrangement, both extensive in the gradually widening area and intensive in the resumption of topics and deeper investigation of them, and its foci of adjustment in the practical problems of life, are self-evident. Little comment is therefore necessary. We may note at the first stage the preparatory physics which is to afford a rational basis for the physiological structure of the body and its working as a mechanism. This is followed by hygienic applications. At the second stage selected topics in general chemistry give a rational line of approach to the physiology of nutrition and excretion. Two or three lessons on the reproductive system are to be given (it is to be noted) by a member of the medical inspection staff. A woman would naturally undertake them. The hygiene of ventilation, light, and sanitation is in scientific coherence with the two proceeding sections. Disease, its spread and prevention, appropriately rounds off this stage. At the third and highest, simple organic chemistry is first taken, and related aspects of physiology and hygiene follow. It may safely be said that such a course would serve the double purpose urged as imperative throughout this section. It would mediate adjustment to the individuality of nature on its physical and chemical side, and it would bring science into immediate and practical relation with individual and social well-being. If botany were also taken even the enthusiast for science ought to be satisfied. For nature in its entirety, on its organic and evolutionary as well as its mechanical and physical side, would be envisaged.

§13. This brings us naturally to the point we postponed, namely, the need for including some biological study

in the science course for boys. The facts seem to be clear. "In very few boys' schools is there any attempt to give a knowledge of the main facts of the life of plants and animals."³⁰ The Committee thinks it should be made. "The main facts as to the relation of plants and animals to their surroundings, the changes in material and in energy involved in their life and growth should form part of a well-balanced school course. There is a considerable measure of agreement among our witnesses to the effect that the course might include the main anatomical features of the higher plants, the elementary physiology of plants, especially their relations to the soil and to the atmosphere, together with some quite general knowledge of animal metabolism."³¹ Reasons for the omission are not difficult to find. Mechanics and the physical sciences were first in the field—a very real advantage as we all know. Inertia, the maintenance of what is, would seem to be the strongest factor in the shaping of school courses, mainly, of course, because the teachers themselves are a product of the system. Thus the Committee points out that very few students save those preparing for medicine or agriculture take biology in the science tripos. Teachers specialise in physics and chemistry, that is in what they have, so to say, been brought up on; so that teachers of biology are hard to find. It is obvious, too, that the direct bearing of mathematics, the oldest of the sciences, on physics has done much to fix the position of the latter in the curriculum. Then the achievements of the mechanical sciences—the bridge, the steam-engine, the internal-combustion engine, the railway train, the dreadnought, and the aeroplane—are more spectacular and impressive, though not more important for human welfare, than those of the historical and evolutionary sciences, the use of anaesthetics and immunity as an effect of the development of bacteriology, for example. Perhaps the main reason is to be found in the obsession of the disciplinary ideal. The physical sciences, with their experimental method of approach, have been taken to be the sole and sufficient means of providing a strict training in the logic of investigation.

Yet the addition of some biological science to the course

³⁰ Report of Committee on Natural Science, p. 21.

³¹ Ibid., p. 25.

for boys can be shown to be imperative, if adjustment is to be complete even from a purely representative point of view. They will have no adequate idea what being and reality mean without it. Even if the facts and laws of physics and chemistry are not looked at teleologically with man at the goal, if the goal meaning and purpose of the inorganic are not found in the organic, biology will at all events bring out the truth that organic life is, as a fact, the crown and culmination of the inorganic. It is the product whether or not it may be the purpose. Then again biology brings one face to face with phenomena—those of life on its physiological side—which physical and chemical reactions do not completely explain. There appears to be a vital residuum which the interplay of ultimate inorganic elements cannot account for. Such, for example, are the chlorophyllian action of leaves, the osmosis of root fibres, metabolism, and sensorimotor action. “Analysis will undoubtedly resolve the process of organic creation into an ever-growing number of physico-chemical phenomena, and chemists and physicists will have to do, of course, with nothing but these. But it does not follow that chemistry and physics will ever give us the key to life.”³² So Bergson. His view is that they cannot, since life is a process of continuous creation. It is not a question of re-arrangement of old materials. “Does the state of a living body find its complete explanation in the state immediately before?”³³ he asks; and his reply is: “Nothing of the sort in the domain of life. Here calculation touches, at most, certain phenomena of organic *destruction*. Organic *creation* on the contrary, the evolutionary phenomena which properly constitute life, we cannot in any way subject to a mathematical treatment.”³⁴ So that here in the phenomena of plant and animal life we are brought up against phenomena of a new order which the laws of physical and chemical reaction, at any rate so far as we know them, do not fully account for. “It will be said that this impotence is due only to our ignorance. But it may equally well express the fact that the present moment of a living body does not find its explanation in the moment immediately before, that *all* the past of the organism must be added to that moment, its heredity—in fact, the whole of a very long history.”³⁵

³² Creative Evolution, p. 33.

³³ Ibid., p. 21.

Without some biological science, then, the boy will be unadjusted to half the universe. And that the more important half; we should add the half which as a purpose or end explains the whole. This might be called an ontological reason for biology in the time-table. It lights up being and reality.

There is another which might be called epistemological. It lights up ways of knowing also. The passages just quoted from Bergson bring out the point that, while inorganic phenomena are explained when we know the sum of immediately antecedent conditions—a lightning flash, for example, by two oppositely charged electrified bodies, near enough for the tension between them to be brought to the point of discharge—most organic phenomena are only explainable by the history of the plant or animal, i.e., by its evolution. We apply the historical category to the inorganic as well as the organic, of course; in geology, for example. But we do not get the idea of continuity, of what Bergson calls real duration except from the individual plant or animal, unless we look upon the whole universe as an individual. This is just what Bergson does. “Matter, looked at as an undivided whole, must be a flux rather than a thing.”³⁴ And here it is that we find “a reconciliation between the inert and the living.”³⁴ It is duration, continuity, evolution, the creation of ever-new forms which is the essence of reality for him. Intellect, according to him, finds uniformity and repetition, in nature, and explains the new as a re-arrangement of the elements of the old, only because it “cuts out,” that is, abstracts, phenomena from their actual context in reality. It does so because action is its motive, either actual or possible. It neglects flux, duration, evolution, change, just because action is what it is interested in. “This action,” he says, “appears to us, no doubt, in the form of movement. But from the mobility of the movement we turn away as much as we can; what interests us is . . . the unmovable plan of the movement.”³⁵ Even if flux and change is the essence of the inorganic it is, of course, slow enough not to affect the effectiveness of the action based on the assumption of immobility or the validity of the physical laws which we formulate on the same assumption. On this remarkable theory science

³⁴ Ibid, p. 196.

³⁵ Ibid, p. 319.

and philosophy must, as we have already said, pronounce and the student must form his own conclusions about it. What it does seem to point us to, however, is the necessity of adding the dynamic categories of life—change, continuity, duration, evolution, whether it be creative or not—to the static categories—uniformity, permanence, repetition—which the inorganic, whether “cut out” or not, seems to fit into. The Bergsonian doctrine does bring into perspective the necessity, if adjustment is to be adequate, of adding the investigation of the organic to that of the inorganic.

This necessity emerges also from another point of view. It is urged for physics and chemistry that they are not only valuable in themselves but also for the logical discipline they afford. The argument is that the habit and ideal of rigorous logical investigation which they develop is of the utmost value in other fields, that of history for example. Scientific method and scientific ideals are to be followed and striven after, whatever the object of adjustment may be. Indeed what we have called the first world, nature, has no monopoly of science. Science both as a method of investigation and as a body of coherent doctrine should be realised on all fields of enquiry, in history, sociology and economics, for example, as well as in the world of natural law. That needs no demonstration. But it is equally certain that science in the latter sphere, that is, in the narrower and common meaning of the term, has set the standard. And it would seem, if Bergson is right, that the standard from the epistemological point of view, the point of view, that is, of knowledge, needs reconsideration. At any rate we may say without hesitation or qualification that the dynamic categories we have mentioned above are the ones which will help us most if we wish to get at the essence of history. We may even go so far as to say that the static categories of the inorganic sciences will lead us astray. The theory of the interaction of individuals and the social order would be darkened rather than clarified by any analogy drawn from physics or chemistry. Biology supplies the sounder analogue here. “Society has none of the impassivity of nature. So far from being blankly impervious, its very essence is intercourse : on the extension and increasing intimacy of this its whole progress depends.”³⁶

So that if we want to get hold of the development and progress of society, if in a word we want to understand history, it is not any atomistic conception which will help us. A nearer parallel will be the development of a living organism. We need some biology in our science courses, then, for boys as well as girls, in order to mediate adjustment to the second world as well as the first. For there, too, as we shall try to show in the third book, the weaving of moral ideals into the texture of conscious life is a vital process, indeed the highest form of life and evolution. So that with the ultimate object of giving to adjustment to our three worlds the unity which they have in reality, we ought to add organic to inorganic science. We may add that the category of accumulation, "capitalisation," as Dr. Ward calls it, both physical as in the conception of organic growth, and mental as in the conception of character, in the life of the individual and through heredity, and in the life of a social organism like a nation also, does not emerge from the inorganic sciences. The conservation of energy is, by contrast and indeed essentially, a static category.

§14. The predominant position of mathematics in school courses is due to several causes. It is the oldest of the sciences and has long centuries of tradition behind it. Quantity is an aspect, at any rate, of all material reality and of spiritual reality also so far as this has the characteristic of intensity—a point we are perhaps apt to lose sight of when we refer to the abstract nature of mathematics. And at the other end of the scale, that is to say when we are thinking philosophically and are trying to explore the innermost sanctuaries of truth, mathematical ideas are often the most fruitful, as the history of philosophy—Descartes, Leibnitz, Newton, Clarke Maxwell, and Poincaré are names that come to mind at once—abundantly shows. Then there are the marvellous achievements of the science and the rigid logic of its discipline which makes it so attractive to some minds. We may perhaps add, from our point of view, the ease with which its subject-matter can be organised into coherent and progressive schemes—a logical quality not without its dangers.³⁷ All these powerful factors have combined to give it a position almost of independence in school courses.

³⁷ See pp. 66-69.

We should maintain, however, that it ought to be tried by the criterion of adjustment equally with all other school subjects, and that for lack of some such criterion, rigorously applied, it has become, like the discipline of classics and the laboratory, to some extent, what we have described as an obsession of the instrument.

Just as at the primary stage we assigned to arithmetic a place ancillary to nature-study, so we think that at the secondary stage mathematics should be paired closely with empirical knowledge of scientific facts as a means of gaining a freehold footing in the realms, whether of nature or humanity, where law obtains. It is obvious that the advance to quantitative precision is the ideal of adjustment in what we call the natural sciences and their applications, and it is every day becoming more clearly evident that in humanistic studies, economics, hygiene, psychology, for example, and even in history, statistical records and the expert interpretation of them, are at all events an indispensable buttress of sound theory. Clearly, then, all schools must find a place for this instrument, and we should add for all pupils until the last one or two years of the secondary course. This part of educational theory has been so thoroughly ventilated that we shall confine ourselves to two observations. The first is that at all stages of the school course mathematics should retain the characteristic of direct instrumentality, it should as frequently as possible maintain its actual contact with physical reality : mere potentiality of contact, *i.e.*, its development as a wholly self-coherent deductive science, is only appropriate at the university stage. The correlation of mathematics and science is a point insisted upon by the Natural Science Committee. It gives "point to the mathematics and precision to the physics."³⁸ The second is that manipulation of mathematical theorems and formulæ need not, indeed should not, wait upon a full appreciation of their import or of the reasoning on which they are based. A sound balance of the empirical and the rational as phases of adjustment is a point of theory emphasised throughout this essay, and it is nowhere more pertinent than here. The full implication of mathematical truths is a late and a rare product of investigation in this fascinating and fertile field. And it is not a condition

³⁸ Report, p. 22.

of real adjustment of a proximate and very valuable kind to the natural and the social orders.³⁹

§15. Having now tried to indicate the area and depth to which boys and girls ought to be adjusted if they are to understand nature, and if they are to carry over to the discovery and investigation of the social order conceptions and ways of thinking which will be helpful, we may return to the process itself. We began by saying that the essence of the stage of science was the clear emergence of the subjective factor. That pole became the dynamic centre. We have seen the area of adjustment widening and the depth increasing. The National Science Committee recommends that this extensive and intensive process should go on until some idea of nature in its unity and individuality has been developed. It is to be carried to a point at which such general hypotheses as the conservation of energy and evolution can at any rate be appreciated. This can only be done, as we have seen, by selection, by taking up representative phenomena and aspects of nature. We have tried to show how it may be attempted. But the reader may conclude that we are all the time getting away from the subject of experience and deeper into the labyrinth of objective reality. It would seem that the further we go in extension and intension the more constraint nature seems to exercise and the less room there is for what we have called the synthetic function of the ego.

Let us face this inference squarely. The radius of adjustment lengthens, the area increases, and we are to add depth to extent. Does it not follow that the synthetic function of the ego diminishes proportionately? Does not external constraint become more imperative, wonder more intense till it culminates in reverential awe, and adjustment more a matter of inevitability and of the impotence of the ego? It would seem so at first sight. As the complex of nature is unfolded the role of the ego is limited to an attempt to keep pace with the unfolding. The conception of freehold tenure, of contribution, of construction, gets more and more unreal as we advance. The ego is just apperceptive of the order, causal coherence, and unity of nature which confronts it. All it can hope to do is to catch and formulate in such conceptions and terms as it can command the universe which is being dis-

³⁹ Cf. p. 59.

played, polarised to itself though it may be. The victory of constraint is finally and inevitably with the objective world. The ego, the millions of egos, are, like the atoms, just material it moves and shapes at will. Our theory of the shifting of the dynamic centre from the objective to the subjective pole, as the differentia of science, would seem to be a vanishing dream. Each step forward in science instead of establishing it, dissipates it. The centre of adjustment is without and we contribute less the further we advance.

Such seems to be the inference. But it is just at this point, confronted by this philosophy of naturalism which is buttressed by the unreflective thought of the vast majority of men that we must exercise our right of free criticism. As soon as we do so, the fallacy of the inference will appear. The error lies here. We have assumed that while the objective element has been growing steadily in extent and in complexity the subject has not developed at all but has been, so to say, overwhelmed by the accumulating momentum opposed to it. The circumference of adjustment has been growing, a continuously-increasing sphere of content has been developing while the subject has remained static, a mere central point. In a word we have for a moment and inadvertently abandoned the position we took up at the outset. Without realising it we have fallen back on the standpoint of ordinary unreflective thought from which nature, ever extending its boundaries, seems to get bigger and bigger until it reaches the infinite, while the ego gets relatively smaller and smaller until it appears to be like the atoms completely subservient to natural law. But the moment we reflect we see that we are back at undiluted dualism again. Let us rid ourselves once more of the incubus. The truth is simple. The extensive and intensive development of scientific knowledge has taken place within experience. Growth at its edges and in its depth has been conditioned at every step by the active, acquisitive, synthetic development of the ego itself. It is the very antithesis of the truth to suppose that there has been objective accretion before the weight of which the subject has been reduced to passivity. The centre of accretion has throughout been the subject. Every addition has been by acquisition from within, not by imposition from without. Every unit of area acquired—to adopt for a moment a quantitative illustra-

tion—has been the effect of an additional unit of dynamic power which the ego has developed. The victory is not with objective reality but with subjective organising power whereby the confines of what is akin are for ever being extended and the alien is being absorbed. The area of a forest clearing grows from the centre where the woodman's house stands and is regulated by the blows of his axe. The area of scientific adjustment depends on the dynamic power of the ego from which it radiates.

§ 16. It may be urged that all this is just dogmatism with no more valid claim than the naturalism which finds the genesis of constraint and adjustment in nature, outside us. We must, therefore, try to justify our position. We can only glance at fundamentals. For a coherent and comprehensive argument for the contribution of the subject in the shaping of reality and thus, as we are trying to show, to the adjustment to nature which science as a subject of education mediates, the reader must consult such a work as Dr. Ward's "Naturalism and Agnosticism."⁴⁰ It will repay him a hundred times over, whatever view he may ultimately adopt. If he is a teacher who honestly wishes to base his profession four-square on rational insight, he cannot evade this enquiry into fundamentals. They will not shape the routine but they will bring out the essentials of adjustment.

The essence of the process at every stage is the union of man and his world and the offspring is nature as science conceives it, that is, as a realm in which order reigns. The possibility of such a union points to a thorough-going community between the two, and, indeed, to their ultimate unity, as we shall presently see. We may now indicate the stages at each of which that union seems to be reached and at the last of them consummated. At the first the causal connection of phenomena emerges. Let us look separately at the objective and subjective elements out of which this link is forged. We may take spring tides as the phenomenon. Objectively we have earth, sun and moon in a certain spatial relation; their centres in line. This relation recurs fortnightly. Coincidently we have spring tides. To simplify the problem let us eliminate what we know of gravitation. Let us put ourselves at the stage before Newton had given men this

⁴⁰ Chapter XIX is especially helpful in connection with this section.

interpretative idea, or that of the pupil to whom it is not much more than a name. Then the objective elements are reducible to two : the three bodies in a certain spatial relation and the coincident spring tides. Objectively there is just concomitance, order, system. There is no causal coherence as yet. Fortnight after fortnight the coincidence recurs. But if attention is directed to it, by the practical stress of fishing, say, or by the teacher, consciousness gets to work on it by way of organisation. This is not the only coincidence in experience. The pupil has made a tide for himself by throwing stones into a pond. He has felt one in the stern disapproval of his father after some sin of omission or commission. The spring-tides as they recur begin to swim in a fringe of relations in the words of James. Association, here originating in analogy, begins to be active. And sooner or later the ego fuses the objective elements by adding to bare concomitance a causal relation. Adjustment has advanced a step—a vital step—by subjective contribution. To order, to concomitance, there has been added causal coherence, and added by the ego from the mine of experience. How long that mine has been working, whether its tunnels run back into pre-natal days, or whether the experience of a life-time has been sufficient to shape them, we cannot say. The causal conception comes and by the activity of the subject it is woven into the new tissue of experience, the tissue in which order and causal coherence are one. In the words of Dr. Ward : “ It is not then in the relation of one objective change to another that we first find causation ; that is rather where we put it, in order intellectually to assimilate or synthesise.”⁴¹ And again : “ What we call the interaction of subject and environment, we transfer by parity of reasoning to what we regard as the interaction of object and object in universal experience.”⁴² We chose adjustment to the tides to illustrate this transfer because it does seem possible in this case to distinguish coincidence and causality as steps in it. Logically it is at all events possible. Usually, of course, the net of causality is thrown over the objective elements of a phenomenon as soon as coincidence is observed. Often too soon for logical requirements. Coherence of fact is thus transformed into causal coherence by the sub-

⁴¹ Naturalism and Agnosticism, Vol. II, p. 238.

⁴² Ibid, p. 239.

ject. And organisation does not stop there. To clinch the union the subject proceeds to peg the net of causation down at various points. Its manipulation of gravity as a cause illustrates the process. This was Newton's original contribution of course, but it is equally the contribution, possible through his genius, which every disciple of his must make if he is to take this further step in adjustment. The general conception of causal relation becomes more precise as the subject isolates, first, the direct effect of mass and, next, the inverse effect, according to the law of squares, of distance. And it is obvious that this advance in precision is solely due to subjective activity, to intellectual organisation of objective fact. We certainly begged this question when we called it Newton's interpretative idea a moment ago. But the logical sin, if such it be, is surely pardonable. The formulation of the law in terms of mass and distance is man's share in adjustment. If there had been no Newton, tides would have remained just an objective coincidence. They would have recurred, but would not have become intelligible and calculable. And we may generalise and say that all scientific laws are man's mark or impress on phenomena. In a word we may say that when causal coherence has been recognised, when the pegs, especially if quantitatively sharpened, have been driven in, when phenomena become foretellable and adaptable to man's needs, the victory of the ego has been made more secure. Scientific laws are man's formulation of what he finds in nature. Professor Pearson says: "One of the greatest of German physicists, Kirchoff, thus commences his classical treatise on mechanics: 'Mechanics is the science of motion; we define as its object the complete *description* in the *simplest* possible manner of such motions as occur in nature.' In this definition of Kirchoff's lies, I venture to think, the only consistent view of mechanism and the true conception of scientific law."⁴³ This is what Mach says: "There is no cause nor effect in nature; nature has but an individual existence; nature simply *is*."⁴⁴ And again: "In nature there is no *law* of refraction, only different cases of refraction. The law of refraction is a concise compendious rule, devised by us for the mental reconstruction of a fact."⁴⁵

⁴³ Grammar of Science, p. 115.

⁴⁴ Science of Mechanics, p. 483.

⁴⁵ Ibid, pp. 485, 486.

So that there does not seem to be any point in controversy whether the most general conceptions of science, e.g., ether, are objectively true. So long as they organise reality that is all the truth we want. Truth, as adjustment, is progressive rather than relative.

If it be asked, secondly, whence comes this conception of law, if not, as uncritical thought would assert, from the constraint of nature, the answer is that it comes from subjective experience, like the conception of cause, only it is experience of a different character. We may follow Dr. Ward in our attempt to clear up this point.⁴⁶ The origin of the idea of natural law is social law. As members of society we feel constraint working through custom, convention and tradition and also, over a narrower area of conduct, through the laws which society has formulated and enforces for its own and its members' well-being. We come gradually to realise that the order, organisation and even existence of society depend on the maintenance of law. Its regularity, and inevitableness become woven into the texture of our social consciousness. When, therefore, we find order and regularity in objective phenomena like the tides we transfer to them the necessity and inevitability which we find accompanying the operation of civil and jural law. So that as the conception of natural causes is derived from individual experience, so from social experience we get the conception of natural law. Our first and second worlds are one at all events in this fusion. Dr. Ward clinches the point by urging "the analogy between civil law and natural law, and the certain fact that the conception of the latter is derived from the former. If man had never made laws he could never know law."⁴⁷ In this connection he quotes the saying of Kant that "the intellect makes nature, though it does not create it."⁴⁸ This apparent paradox is resolved if we understand making to mean organising objective fact, mapping it out and making it amenable by means of science. There is, of course, no question about the reality of objective fact or its constraining power over us. There is equally no question about the organising power of the intellect. It is the marriage of these two which gives us nature as known to science. Our special

⁴⁶ Naturalism and Agnosticism, Lecture XIX, and especially pp. 248-253.

⁴⁷ Ibid, Vol. II, p. 251.

⁴⁸ Ibid, Vol. II, p. 253.

point here is that in that marriage the conception of law derived from the spiritual world we call civilisation is carried over to the material world of nature. "We animate what we can and we see only what we animate."⁴⁹

§17. And, thirdly, from phenomena like the tides which are, so to say, plastic under the manipulation of individual laws, the transition to nature as the realm of law is an inevitable one. The Natural Science Committee considers that school science can and ought to mediate that transition by finding room for the widest generalisations such as the conservation of energy and evolution under which the fabric of nature as a whole can be organised.⁵⁰ Thus separate causes and laws are taken up into the unity and individuality of nature. We may with profit dwell for a moment on this conception of individuality which takes up and at the same time transcends the conception of law. Dr. Bosanquet has developed it in his work entitled "The Principle of Individuality and Value."⁵¹ It is a principle exemplified in any system consisting of parts or members each of which expresses the meaning and vitality of the whole and is a function of it. A tree is an example on a small scale and the universe as a mechanical system is another on a large one. In the spiritual universe a human being, a school, or christianity as a community of souls, are examples. Both the natural and the spiritual worlds are made up of such systems, "concrete universals," and the life or functioning of the whole is exhibited in the relations obtaining between the parts or members. Thus in a tree it is organic life which pervades the relations of part to part, in a school it is its spirit or ethos, in christianity it is personal religion. The participation of the member or part in the spirit or life of the whole is its universality, literally the stress or tension towards the whole. The relations of the parts are expressed in general laws or uniformities: those of the tree in the laws of biology, of matter in the law of gravity, of a school in its customs, traditions and regulations, of christianity in moral and religious truth. It will be seen that this principle of indi-

⁴⁹ Emerson, *Essay on Experience*.

⁵⁰ Report, pp. 24, 25.

⁵¹ See pp. 120, 121.

viduality is a step beyond law in the direction of ultimate explanation. Law is indeed a corollary of individuality : it expresses the relations of parts which follow from membership of the whole.

Put in another way law is abstract while individuality is concrete. A law expresses a co-existence or sequence apart from any particular setting of place and time. In our applications of law we are driven through stress of economy of thought and words, to the incomplete as well as to the abstract. We think and talk of the earth revolving round the sun, not of both revolving round their centre of gravity. That, however, is economy rather than error. But the abstractness of law leads to the actual ignoring of truth. We talk and think of repetition and uniformity, whereas in the concreteness of reality there is no such thing. No stone falls quite perpendicularly, no projectile describes a perfect parabola. In each natural event there is uniqueness which is a result of its adjustment to the individuality of the universe as it at that moment exists. There is always resemblance, of course, because there is always partial identity ; but it is identity following on membership of the system which is primary and fundamental and resemblance which is secondary and derivative. This is what the conception of individuality brings out. It presents reality in its concreteness and the phenomena of reality in their uniqueness. It thus corrects and completes the partial and abstract view of reality to which the conception of law commits us. Dr. Bosanquet suggests that, on this account relevancy is a term preferable to uniformity as applied to phenomena. Thus, in the examples given the stone or the projectile would be said to express the law of gravity in a relevant rather than in a uniform way. We may note that the philosophy of Bergson also carries us beyond the conception of uniformity. His fundamental thought is the reality of time, change, and creative evolution. Hence uniformity and repetition do not exist for him. "Real duration is that duration which gnaws on things, and leaves on them the mark of its tooth. If everything is in time, everything changes inwardly, and the same concrete reality never recurs. Repetition is therefore possible only in the abstract : what is repeated is some aspect that our senses, and

especially our intellect, have singled out from reality."⁵² We thus arrive finally at the individuality of our first world, the world of nature. It is a conception which, great as it is, has its genesis like cause and law in subjective experience. "The Unity of Nature is the ideal counterpart of the actual unity of each individual experience—an ideal towards which we advance when intersubjective intercourse and reasoning begin; and an ideal which becomes clearer and more distinct as mythology gives place to science, and, I will venture to add, as science in turn is taken up into philosophy."⁵³ So that we seem to have been justified in describing adjustment at the science stage as a freehold footing in the world of nature. And it is not only an intellectual advance. It is an emotional, an aesthetic development also. And here we see why literature should march evenly with science. It may be said to be the vehicle of intuitive adjustment, that of the emotional and conative self, as science is the medium of intellectual adjustment. Perhaps by this living correlation the schools can consummate, within their limits, that union of intuition and intellect on which Bergson insists. To the truth which science reveals may be added the "Wisdom and Spirit of the universe,"⁵⁴ which Wordsworth found. And, as in his "Ode to Duty," moral law may be identified with natural law and both with God :

" Stern Law-giver ! yet thou dost wear
 The Godhead's most benignant grace ;
 Nor know we anything so fair
 As is the smile upon thy face :
 Flowers laugh before thee on their beds
 And fragrance in thy footing treads ;
 Thou dost preserve the stars from wrong,
 And the most ancient heavens, through thee, are fresh and strong."

Here our three worlds coalesce again. And we may note—what Dr. Ward is so careful to insist on—that the three sides of the subject—cognitive, affective, and conative—coalesce also. The contribution of the subject is cognitive in organising nature, affective in finding beauty in it, and conative—we may now add—in selecting for organisation and appreciation those aspects which interest it.⁵⁵

⁵² Creative Evolution, p. 48. His point of view is, of course, the very opposite of that of Bosanquet, whose doctrine of individuality is derived ultimately from the static conception of the world of Plato's Ideas.

⁵³ Ward, Naturalism and Agnosticism, Vol. II, p. 235.

⁵⁴ Influence of Natural Objects.

⁵⁵ Naturalism and Agnosticism, Vol. II, p. 131, f.

We thus arrive at the view that the ideal of adjustment to the first world is the fusion of the whole man with the whole universe. We recognise limitations, of course, both objective and subjective. Objectively there is an infinite extent and the best we can do is to make a really representative selection of topics, and to see that the pupil arrives at the point where he can appreciate the individuality of nature. Subjectively there is congenital bent, capacity, and interest, and on this side we can but see that opportunity is wide and tenure is freehold, so far as it is achieved. One inference from adjustment we seem justified in drawing. The subjective and objective elements, man and nature, do fuse: they become one, a unity or continuum of experience, blended in cognition, emotion, and conation. The question then is: Is nature fitted to man or man to nature? Is it spirituality or materiality which accounts for the dove-tailing of the subjective and objective facets of experience? Dr. Ward has no doubt: "This unity and regularity of Nature proves that *Nature itself* is teleological, and *that* in two respects: (1) it is conformable to human intelligence and (2) in consequence, it is amenable to human ends."⁵⁶ For us there is no escape from the logic of adjustment. Spirituality and not materiality is ultimate. The student will, of course, decide for himself. It is doubtful whether he will find consolation in anything short of spirituality. It is certain that he will not go wrong in regarding adjustment as, on the one hand, exploration and conquest, the grasp of material reality by the self, and, on the other, its absorption in that reality which, whatever its ultimate essence may be, is at least not alien, but kindred with all that is best within him.

⁵⁶ Ibid., Vol. II, p. 254.

BOOK II. THE WORLD OF CIVILISATION

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CHAPTER I

PRELIMINARIES

§1. In this book we are to consider adjustment to the second world, the social order. The conclusion we reached at the end of the preceding book was that social experience, involving the observation of law, gives us the conception which enables us to organise the first world, the natural order. As spheres of law the two worlds meet. We concluded, too, that this union of matter and mind, of nature and science, means, at all events, the affinity of the former with spirituality. The practical business of adjustment will, however, be carried on at the level where the two worlds are distinct. And we shall give reasons at the beginning of the third book for distinguishing, at this same level, a third, the moral order. The education of the philosopher will, no doubt, aim at reducing the three to one; and, indeed, most men will now and then feel, even if they do not articulately realise, the unity of all reality. For moments of insight, of æsthetic fervour, and of religious inspiration are not the monopoly of the highly educated. But for all of us, including the philosopher, most of our life means adjustment now to nature, now to humanity, and now to the ideal world of morality. In other words, every one will have to learn to find his way about the natural world, to discover the tissue of human relations within which his individuality develops and from which it draws so much sustenance, and, as we hope to show in the third book, to recreate for himself the moral order.

We must examine the structure of this social order. In the introductory chapter we glanced at it as a whole. Now, following the method adopted in the first book, we must develop the details. The conclusions reached in the preliminary chapter of the first book are, *mutatis mutandis*, generally per-

tinent here also. It will be best to consider, first, differences which the social environment presents when compared with nature's order, and then features they have in common. This second world, the social fabric, is the world which originates in the inter-play of instincts, emotions, and sentiments and in the actions and conduct of men which are the outcome and expression of these impulsive forces. The first world, the arena of our activity, is shaped and controlled by physical forces which are, as we have seen, amenable to the organising power of science. But science can only use the material it finds and the modifications it can effect are, after all, modifications of something external and given. The social world, the fabric of civilisation, is wholly man's creation. It is the outward sign and manifestation of the activity of his instincts and his emotional impulses and aspirations. This manifestation may take visible form in a house of parliament, a cathedral, a pier, a railway-station, a school, or a political document. It may remain invisible in the form of the customs, laws and traditions of a nation, or a section of a nation such as a trades union or professional association. Whether visible or invisible it is the embodiment of the impulses—innate and acquired—and aspirations of man translated into behaviour and conduct. It is man-made; and, as such, stands over against and in contrast to, the first world which is the product of forces working independently of man, though becoming more and more subject to the control of his intelligence. Much of the natural universe remains, and will remain, however, outside the range of his practical manipulation. The social fabric extends with the progress of his activity. It is essentially his world both in substance and in form. He does not work upon something given; his instincts, his intelligence, and his aspirations evolve it.

Spirituality is thus the fundamental differentia of the social order. Dr. Ward speaks of "this addition of a transparent and responsive world of minds to the dead opaqueness of external things."¹ Now it is just this transparency, and consequent elusiveness, of the spiritual world which we call civilisation that is the first point to be grasped when adjust-

¹ Psychological Principles, p. 286, footnote.

ment to it is to be the topic. Materiality and extension give to the natural order an advantage in this respect over the social order. We are able to get a grip on the one; the other, attenuated, so to say, in its spirituality easily eludes us. For we must distinguish carefully between the social order and its occasional embodiment. A church, a school, or even such a social complex as the constitution of a country has a two-fold aspect, analogous to the body and mind of an individual. When we speak of the social order we do not mean the buildings or even the association of human beings in the first two cases, or the legal instruments, the acts of parliament, in the third. These correspond to the body of the individual. The essence of all three, their mind or soul, consists of the social and moral facts, ideals and aspirations which they stand for and which live in the consciousness of their members. That is what we mean when we speak of the spiritual texture of the social fabric. It consists of what belongs to the world of mind and spirit as contrasted with the extended world of matter. Its objectivity is, of course, not affected. A school, a trades union, a professional association, or a nation, is no less real and objective than a range of hills. It does, however, from the very fact of its essential mentality as an organisation elude us in a way the material world does not. That is why we described adjustment to it as, in part at all events, discovery.

There is, no doubt, force and truth in the assertion that "we live in a social world more than in a world of physical objects."² A home, a school, an office, a street, or even a workshop may be, for some persons, an environment whose fabric contains more of the social warp than the physical woof; more, that is, of constraining power over the content and colour of experience. But it is easy to over-estimate social consciousness and tension as felt by the individual. Enthusiasts for social evolution, stirred perhaps by the recent striking developments of psychology and sociology, are inclined to overlook the inertia and the egoistic obsession of the individual. The subjective pole must inevitably be the stronger in this arena of instincts and emotions, played upon

² The Educational Review, February, 1919, p. 97. Article entitled "The Reconstruction of Education on a Social Basis," by C. A. Ellwood.

though it may be all the time by influences originating at the objective pole of society and civilisation. Self-realisation seems to involve that. The social fabric is a constantly-operative factor in adjustment but it is none the less elusive, having to win its way to the light through a cloud of egoistic instincts and emotions. And the more these become organised about permanent bent and sentiment, the more the social order will recede, unless, of course, adjustment can by education be brought to a focus in it. As age advances the danger is of withdrawal into a world of which the self is the centre and the circumference also. No doubt in the heroic temper of adolescence we have a tide which will carry far, if we catch it. No doubt youth

“ By the vision splendid
Is on his way attended ”;

but it is equally true that

“ Shades of the prison-house begin to close
Upon the growing Boy,”

and we may, without unduly straining Wordsworth's meaning, think of the vision splendid as the social order and the prison-house as egoistic development. There is a very real sense in which the spirituality of the former is its weakness. We shall certainly do well to think of adjustment to it as largely a question of discovery. The task is just the opposite of that we had to face in considering adjustment to the first world. There it was to find the soul or meaning; here it is to find the substance.

§2. Spirituality has another consequence which is often overlooked. We are here comparing the social with the natural environment, though the former is in one sense, that of growth and evolution, as natural as the latter. But is the term environment appropriate to the social order? There appears to be some confusion of thought in the way such terms as social tissue, environment, organism, or order, are used. Reference is not made here to the question whether they stand for a fact or for a metaphor. There seems to be no doubt that individual A is, as a matter of fact, organically related to individual B. Instinctive reactions, e.g., those expressing pride, shame, or sympathy, seem to be sufficient

proof of that. But it is not always made sufficiently clear that the social organism has its existence within the experience of individuals *and nowhere else*. There is no school-tradition, for example, except what individual members, masters and pupils, have felt and are feeling. It may be thought that the fact hardly needs stating. A fairly wide and lengthy experience of students leads us to think that it does. It is, indeed, necessary to be quite precise about this point. The real objective existence of the traditions of a school as at once a social and a moral order is, of course, not being questioned. What needs emphasis, however, is that they live only in the experience of the members of the school. It is desirable to avoid the use of the terms inside and outside as a general rule in any discussion of details of the theory of education, because it is better to keep altogether within the confines of experience; but this particular point may perhaps be made clearer if we say that there is nothing outside the experience of individuals corresponding to the social organism, in the same way as there is a physical world outside experience. The social self is part of the texture of the individual self. The social organism lives, and lives only within the experience of individuals. We may quote an authority or two in support of this fact. Mackenzie says:³ "Society is not an entity apart from the individuals who compose it." He is referring to society as a moral arena and stimulus. On the psychological aspect of the question Bosanquet says: "According to James our social selves are other people's ideas of us; but to this we should add that they are other people's ideas of us *as reflected into our own ideas.*"⁴ And again: "Self-consciousness *as we experience it*, is for the most part social."⁵ Leslie Stephen, one of the earliest English exponents of the idea of the social organism, is emphatic on the point. "Society," he says, "is not an organism with a single centre of consciousness. It is not something which has any existence apart from the existence of the individual members."⁶ This limitation of the sphere of existence to consciousness and experience—the consequence of its spirituality—is just what such terms as environment and order are likely to hide, unless we are forewarned.

³ Manual of Ethics, p. 425.

⁴ Psychology of the Moral Self, p. 51.

⁵ Science of Ethics, p. 111.

It is worth while anticipating and meeting at this point the objection that if the social order only exists within the experience of individuals, it cannot have the continuity which such a term as environment implies. This is a real difficulty but it can be solved. Nature stands over against us one and unbroken, at any rate in respect of space or extensity, it will be said; and while it is polarised to the individual, revealed within the confines of experience, and thus acquires what might be called emphasis of continuity, this emphasis is of the given. How are we justified in clothing the social order in the same garb and applying the conception of continuity to it also? The answer is at once simple and profound. The human being is born into a social and spiritual world as well as into a material one. The one is as necessary to his mental existence as the other is to his physical existence. He can no more escape or withdraw from the spiritual envelopment than from the atmosphere. Its continuity is that of influence; and it is unbroken.

Bosanquet says: "Historically speaking, no doubt the human individual does not originate in isolation, but reflects some sort of community, so that from the first the self goes beyond the bodily unit."⁶ And again: "From the first the core of experiences identified with feeling probably includes more than the body group; it includes whatever has not been separated by special division, such as experiences of the home and family, and there seems no reason to think these would be sifted out as we go back to more primitive stages where discrimination is less."⁷ In these passages he is discussing the genesis of self-consciousness and they support the view that there is a polarisation of the social order to the individual, corresponding to, and developing *pari passu* with, the polarisation of the physical environment; and that we are justified in applying the term environment to social phenomena as to physical phenomena, within experience. They form a continuous texture within which instinctive reactions, summed up under such conceptions as sympathy, imitation, suggestibility—the phenomena of gregariousness generally—find room, so to say, for play and activity; just as the cognitive functions find room in the continuum of nature. The

⁶ Op. cit, p. 87.

⁷ Op. cit, pp. 51, 52.

social nature of language points in the same direction as we shall presently see. So that we have in this spiritual envelopment into which a child is born what corresponds to the extensity of the natural order. Again, in the continuity of development which the history of social life and social institutions exhibits, we have further and, indeed, what seems to be complete justification for the use of such a term as social environment in a real and not merely a metaphorical sense. Here, if anywhere, as it seems to us, Bergson's doctrine of real duration is indicated; and dynamical continuity can be superimposed upon what might be called the static continuity of the social order at any given moment.

It must be repeated, however, that while we seem to be able to justify the use of the terms social organism, order or environment, alike from the instinctive and higher social reactions found within individual experience and from the continuity of social development, yet they stand for no existence outside individual experience. The social continuum exists and is felt within individual consciousness. In this fact it is, perhaps, that the resolution of the opposition between individualism and the conception of a social organism may be found. That, perhaps, is the way in which we may see the truth as well as the falsity of the philosophy Arnold gives expression to in the poem from which we quoted in the introductory chapter.⁸ The following passage from a recent essay on education shows that the idea of isolation is still dominant: "Either Divinity teaching is a mockery, or else it will strike a note deeper than that struck by any other subject. It will go beyond the political instinct, beyond the artistic instinct: it will touch the human individuality—that is, the human soul imprisoned in the human body; the shivering human soul with its own awful problems; its own august destiny, lonelier in its house of clay than any prisoner in any Bastille in the world. The true teacher will recognise in each of his pupils an individual human soul, distinct and different from every other human soul that has ever been fashioned by God, miles and miles apart from the soul that is nearest and most akin to it, craving, indeed, comradeship and sympathy and pity, needing also, it may be, discipline and

⁸ See p. 4.

guidance and a restraining hand, but imperiously demanding to live its own life, to be allowed to bring itself to its own perfection.”⁹

The reply which social psychology, and philosophy, even such a philosophy as is developed by James in “A Pluralistic Universe,” would be that the distinctness and difference of every human soul is not inconsistent with the existence within every human soul not only of social tension but of social continuity, instinctive, intellectual, and æsthetic; and the business of education is to discover to the individual and develop this social environment which is part of his mental equipment. At the same time it may be remarked that there probably never was a principle, emerging as the real conviction of a sincere thinker, or school of thought, which did not contain a solid kernel of truth. The evolution of thought is in this respect, perhaps, different from the evolution of physical life. The biologists tell us that the evolution of species has left many derelicts, fungi and parasites, for example, whose place in the sphere of things seems hard to justify. It may, perhaps, be said that this is not so in the evolution of philosophy. Truth in this sphere seems many-sided and principles, even if superseded and modified by subsequent research and discovery, do not become derelict, mere flotsam and jetsam. They live on to contribute their quota to the sum-total of truth. There is this kernel of truth in the philosophy of individualism, pluralism, and isolation, that every one must win by discovery and realisation, with the help of such educational direction as it is his good fortune to enjoy, his inheritance of participation in the social environment, if he is to win it at all.

§3. We come now to the second differentia of our second world, society and civilisation. It is a corollary of the first, but is important enough to be considered co-ordinately with it. We mentioned it in the introductory chapter and shall revert to it in the third book. It is potentiality for what Dr. Ward appositely calls capitalisation.¹⁰ In the social order, and by virtue of its spirituality, achievement, be it intellectual, artistic, moral or religious, is fixed, held in

⁹ Gollancz and Somervell, Political Education at a Public School, pp. 96, 97.

¹⁰ Psychological Principles, p. 419.

safe keeping, and handed on as the accumulating inheritance of succeeding generations of men. This potentiality for accretion is wanting in the realm of nature. It is the realm of birth and death. Old elements are recombined in ever-new forms, but the totality of its substance does not increase. Such is the teaching of science. Substantially at all events, *tout est donné*, in Bergsonian phrase. It is otherwise in our second and third worlds. "In the social environment . . . there is no complete inertia, no bare conservation of energy, no law of diminishing return."¹¹ On the contrary we find there the inherent dynamic power, the expansive energy, the cumulative returns of spirit. We can find evidence of this in the various directions of social organisation and activity. We shall have to consider this evidence in succeeding chapters, as presented in the area of government and law, of economic relations—though here disappointment will be mixed with satisfaction—of literature, of nationality, of morality, and of religion; and we have already come across it in the field of science. In this sphere of social evolution it supports Bergson's doctrine of real duration and creative evolution. Without any of what Bateson calls "all-for-the-best claptrap,"¹² we shall be entitled to direct the adjustment of the young to the second world which exhibits this potentiality for social heredity in a spirit of optimism. It should be made clear, of course, by every teacher that this capitalisation of spiritual assets does not go on without struggle and sacrifice. But it does seem possible to say that evolution in the social medium is a process of refinement and not a mere struggle for survival. There is purpose in it and the track is not strewn with mere wreckage. The evolution of political, economic, national, and religious freedom has the mark of teleology, however fierce the struggle is and has been. We have indeed a basis for faith in the evolution of a better social world. We can believe that the capitalisation of its spiritual forces means progress and betterment. Our examination of this progress in the next two chapters will reveal this. And a school as a developing social and moral organism ought to reveal it as we shall try to show in the third book.

There is a third difference which, borrowing from Dr.

¹¹ Ibid, p. 419.

¹² Cambridge Essays on Education, p. 140

Ward again, we may call plasticity.¹³ Like the second it is a corollary of the first. There is more give and take in adjustment to the social order. We may, indeed, see compensation in its plasticity for the inflexibility of the physical universe. We have only to think of the way the social order catches the rhythm of new impulses in literature and art, or in morality and religion, in order to realise its essential plasticity. Even more readily can this be felt in the way what we call the tradition of a school takes up and transmits new standards of value. The double-edged nature of adjustment when the social order is in question, is a point which the theory of education must assert in unqualified terms, and at the level of fact as well as at that of value. The physical universe is given and the adjustment of individuals to it does not affect its form or content. It is not so with the spiritual orders. Their shape and substance change ceaselessly just as they in turn shape the individuals in whose experience they live. What we are apt to overlook is that we have the making of the second and third worlds in our own hands. They are man-made though they help to make men. They are plastic, being of the same substance as ourselves. We all take a hand in the making of history.

§4. These three qualities, then, spirituality, accretion, and plasticity—the first fundamental, the other two derivative—distinguish the social from the natural environment. We have now to note what they have in common. They are both polarised to the individual; experience in respect of both is unique. So many men so many worlds is an aphorism which is true of both orders. Also Bateson's hard physiological fact of congenital variation is a factor to be reckoned with in social as well as scientific adjustment. One individual may carry about with him, like a shadow, an environment which he ignores, while another may turn to it as the arena which his real self most of all needs. History reveals egoists like Napoleon, trades unions and political associations have to stimulate lukewarm members, and every schoolmaster knows the boy who loves to walk alone. The existence of an environment, polarised though it must be—that is the only rational meaning of the term—does not imply any emotional or conative stress towards it. It may just adhere as a shadow

¹³ Psychological Principles, p. 419.

does. All that has been said about the organisation of adjustment to nature applies to the social order. But the task is more difficult because this order is more elusive. We have no course in sociology to offer, comparable in respect of articulateness with that we have suggested for nature-study and science. We shall indeed try to show how the strands of the social web may be extricated in history lessons and how the school can itself weave the web in miniature. And so far as history lessons go our humanistic efforts will run parallel with our efforts to secure for our pupils a footing in the natural world. So far adjustment will be the same in both spheres. But the lines of organisation of material will not be so clean-cut. That is a consequence of the difference between spirit and matter. Even while asserting likeness—polarisation—we are thus driven back on difference.

Just as polarisation, carrying with it uniqueness, is common to both worlds, so also is constraint, carrying with it universality. Natural selection is operative in both spheres although we believe it to be tempered by teleology in the social order. It is, however, likeness, identity, we are concerned with at the moment. If we are thinking superficially we may fall into the error of supposing that the second world in which instincts, emotions, sentiments, and action have free play, is one where, by contrast with the world of nature, law, uniformity, and objective constraint are absent. We see men apparently doing as they please, apparently exercising individual choice regardless of social obligations; showing courtesy or discourtesy, being indifferent to the interests of their trade or profession or zealous for them, voting or abstaining from voting on local or national issues, choosing nationalism or internationalism as their guiding principle, belonging to a church or openly scoffing at membership of it. Superficial observation might support the inference that while adjustment to the physical world is a final and inevitable fact, adjustment to the social world is a matter of compromise and choice. Very little serious reflection is necessary to convince us that such an inference is fallacious. The social world is not a chaos of which we cannot predict the next phase. It is not, it is true, a world of uniformity of which we can predict its constituents and their relations a hundred or even a thousand years hence, as the physicists

can predict the material universe. Nevertheless there are very real bonds: traditions, customs, conventions of all sorts conserved in the social texture which we cannot escape if we would. And of course there are human laws to disregard which means extinction. We may think of the laws of man as artificial and changeable in comparison with the laws of nature. That does not alter the fact of their constraint. The adjustment of man to his social environment is as necessary as that to his physical environment. The one world is as real and imperative in its constraint on the individual as the other. Dr. Ward says: "As to the social environment, here again we find what we may call a negative or restrictive element—the counterpart of the stability which is practically absolute in the abstract physical system. Some stability is essential to any plasticity; but absolute stability would be fatal: it is as impossible to mould water as to mould adamant. The laws and customs of Society—what we may call its routine—tend to be no respecters of persons (as distinct from classes); they simply leave—what society conceives as—the fittest to survive, and are often as pitiless as nature itself."¹⁴

§5. Finally, it is evident that language stands in a very close and intimate relation to this second world. The relation is, indeed, not incomparable with that of space to the world of nature. As space is the vehicle or medium of the first so language is the vehicle or medium of the second. This is explainable from two or three paramount considerations. Language is the medium of intercourse on which the whole social fabric rests. The very existence of gregarious animals in their wild natural state depends on the possibility of communication and interpretation of signals of danger. Out of the social needs and desires of man language arose and its evolution must have kept pace with the development of social life. The enforcement of a custom or the preservation of a tradition would depend primarily on the possibility of enshrining it in language. All progress in political or economic organisation, or in hygienic and moral directions, must have been largely dependent on the development of language as a social vehicle. This function of language as a means of giving objectivity and permanence to social cus-

¹⁴ Psychological Principles, pp. 418, 419.

toms and institutions, has its counterpart in its subjective function as a means of giving form and content to the instincts and emotions of the individual. This is, indeed, the same function because the social fabric exists, as has already been pointed out, within the consciousness of individuals, and nowhere else. Then again language is the vehicle of suggestion through which the traditions, conventions, customs, and ideals of a society at any stage of its development are brought to bear upon each individual from the time when he can understand, to the end of his life. Once more, language is the depository where the achievements of a society, *e.g.*, its laws, and its history, are held in safe keeping, while it is in literature that the contributions of individuals to the common heritage of inspiration are enshrined. While, therefore, language is indispensable to the investigation of the first world it is indispensable to the existence of the second. Other forms of expression such as music, painting, and sculpture may stimulate through association, articulate or inarticulate, the common sentiments of a nation, but language and literature are on a different footing. They embody its soul and constitution.

In dealing with the problem of adjustment to this second world we shall depart somewhat from the procedure followed in the first book. There, after having examined preliminary questions, we approached the problem directly. We were able to take for granted the structure of the natural world or to deal with points requiring elucidation *pari passu* with the problem of adjustment. Here we shall proceed differently. The first step will be to examine the structure of society. We shall have to consider in turn the different strands in the fabric. They are comparable with the mechanical, chemical, and biological bonds holding together the physical universe. But they are less commonly discriminated and less generally realised as bonds or strands of the web. In the next chapter, therefore, we shall examine in order the political or governmental, national, and religious strands. Then economic bonds will occupy a separate chapter. Occasional references to adjustment will be made in these two chapters but they will be devoted mainly to a consideration of the bonds themselves. Then, after this long digression, we shall take up again the specific problem of adjustment in the fourth

chapter. In the fifth vocational adjustment will be considered, and this will enable us to bring the various elements of the social structure to a focus in life. Finally a chapter on language and literature, as mediating social adjustment in a peculiarly intimate manner, will bring this second book to a close.

CHAPTER II

POLITICAL, NATIONAL, AND RELIGIOUS STRANDS IN THE SOCIAL FABRIC

§1. In this and the following chapter we have to consider the main strands in the social fabric. In the previous chapter we considered its nature and some of its chief characteristics as a whole. We examined its claim to be regarded as an environment or world, seeing that it is spiritual in texture and has no independent and separate existence outside the experience of individuals, and compared it with the physical world in respect of continuity and stability of existence. We found it to be a man-made order, the manifestation and embodiment of his instincts, emotions, and aspirations as a social being, and the depository of his achievements in what we call civilisation. We noted the part played by language as its medium or vehicle. We are safe in concluding from this general review that the web of social relationships, the product of man's gregarious impulses operative throughout the whole of his history, will be vast in extent and infinitely intricate in the detail of its structure. We have now to consider the principal strands or threads of connection which permeate the whole fabric and give it its stability. They will be comparable with the physical and chemical forces which sustain the fabric of nature.

The first question is the political structure of society, which we may regard as its scaffolding. Its relevance to a theory of education should be clear enough. If we are to guide and direct the adjustment of the individual to this second world we must have a general idea of its framework. Only a bare outline is proposed; for the whole theory of government lies behind this particular section. The student who is keen on this part of the subject, as most historical students will be, must have recourse, for detail and historical development, to the authorities on the theory of government and the wider science of sociology. Our object is the less

ambitious one of directing attention to one of the bases of society, its political or governmental framework, so that the teaching of history and such training in civic duties as is possible in schools—the latter will be dealt with in a later chapter—may be approached with rational insight.

We may ask, first, why this scaffolding is necessary; and a sufficient answer seems to be that not otherwise can order and organisation be introduced and maintained in the life of the community. Order we may describe as a state of things which secures a balance of the rights of individuals and organisation as the means of maintaining those rights. We can at once draw the inference from these descriptions that there is, and can be, no finality about the nature and disposition of the scaffolding. The essence of the life of a society is progressive adaptation to conditions which are for ever developing. It is not only that no balance or equilibrium of the rights of individuals or groups of individuals has been reached—that is the ever-present and ever-pressing task of statesmanship. There is the further fact that equilibrium, if it could be reached, would never be permanent and stable. It is not desirable that it should be; for in the political and social world, just as in the moral order which we shall consider in the third book, the law of progressive and, we may well believe, creative evolution, as Bergson has conceived it, obtains. We cannot discuss the great question what the rights of man are. We may summarise them, for our purpose, under the conceptions of justice and freedom of opportunity to live the best and fullest life that the individual is capable of. It is essential to note, however, that, since the order and organisation of society ought to secure these great human postulates impartially for all its members, a certain measure of limitation and restriction of such individualistic impulses, good and bad, as, if they issue in action, may be an obstacle to the realisation of the rights of others, is inevitable. Individual rights imply individual obligation to respect and observe the rights of others. Further, we cannot escape the conclusion that opposition between the rights of the individual and the claims of society as a whole may arise. The phenomenon of the conscientious objector to participation in the duty of defending his country by taking up arms, is an obvious instance. The delicate question of the extent to

which a government, acting for the community as a whole, can impose restrictions on the individual aimed at securing public health, is another. This balancing of private and public rights is a perennial problem. And alertness to it is necessary for a proper reading of history and for an intelligent and humane control of a school as a social community, and one which should provide opportunities for preparation for later civic life.

That right is an individualistic conception as duty is a social one, is a truth which is also a warning. The French Revolution, ostensibly justified by the rights of man, paved the way for the trampling of those rights underfoot by the autocratic rule of Napoleon. The French people achieved freedom only to find themselves exploited to serve the ambitions of the first Bonaparte and the intriguing activities of the third. They were used to baulk the democratic aspirations of Young Italy. Mazzini laid hold of this intrinsic weakness in the conception of the rights, as such, of man with unerring instinct. "Right," he says, "is the faith of the individual. Duty is the common collective faith. Right can but organise resistance; it may destroy, it cannot found. Duty builds up, associates, and unites; it is derived from a general law, whereas right is derived only from human will."¹ This is, perhaps, superficial as political theory. Right and duty are correlative aspects of the same conception which is only filled out when we pass on to the more comprehensive ideal of general and progressive welfare. They are like the convex and concave aspects of a curve and the curve itself must be interpreted by a centre and a radius. Nevertheless the danger of stress on the individualistic conception of right is a real one. "The fact that the reformers of 1789 laid stress upon the Rights of Man produced at once the wrong kind of impression both on the deputies and the people at large. They were led to regard politics as a struggle in which you seize what you can for your class and yourself."² The conception we want is that of the balance or equilibrium of rights and duties or obligations which can only issue from a rational and whole-hearted regard for the common weal.

¹ "Faith and Freedom," quoted by Holland Rose in "Nationality in Modern History," p. 88.

² Holland Rose, op. cit., p. 89.

The next point after the necessity for authority or government as a guarantee and safeguard of rights and as a means of approximating, as far as possible, to an equilibrium of individual and community welfare, is the basis on which it rests. We may dismiss the ideas of force, divine right, and the social contract as conceptions which we have outgrown. The operation of the two former will, of course, be traced in any course of historical study, for they have shaped, in a considerable measure, the destinies of nations. The latter is merely interesting as an exploded theory "unfortunate in every aspect, historical, ethical, and even legal,"³ although the idea has still a certain currency in political discussions. It is almost self-evident that there can be no ultimate basis for an authority which should be able to claim unswerving loyalty and adherence, than the free choice and consent of the members of a community themselves. This is the only theoretical guarantee that justice and liberty will be safeguarded. An external and arbitrary authority resting on, say, force or superstition, and not upon the free choice and consent of the governed, may and, as history abundantly shows, will, from time to time, exploit the rights of the governed for selfish, ambitious, superstitious, or other ill-advised, irrational, or immoral ends. It is clear, too, that hereditary authority, in itself and as such, is logically in opposition to the conception of authority constituted by the free choice and consent of the governed. The growth of civic freedom and the enfranchisement of the members of a political community will therefore be a historical thread on which the details of the development of a people must necessarily be strung.

§2. After the necessity for and the basis of public authority comes the question of its form or nature. The instinct of filial love, experience of parental and other forms of control by individuals in schools and early life, the personal character of religious feeling, the dominance of individual characters in history and fiction, all tend to an unreflecting acceptance of personal rule and authority. The leader, be he general, chieftain, patriarch, priest, president or king, seems to be part of the natural or divine order of things. The

³ Amos, "The Science of Politics," p. 45.

family organisation into head and subordinate members is accepted as the natural organisation of society. Direct teaching and experience of direct and responsible participation in the life of a social unit will, therefore, be necessary before the logical stringency of the principle of democratic government is felt. The theory of government by force and divine right as expounded by Hobbes, for example, is deep-rooted in nature, history, and tradition; hence, perhaps, its tenacity as compared with the theory of a social contract which, historically without foundation as it is, in the conception of voluntary relinquishment of individual rights has yet much in common with the free choice on which democracy rests. Yet the logic of democracy as the only rational theoretical basis of government must be driven home if the framework of society as a political organism is to be appreciated. The six possible forms of government enumerated by Aristotle, three good and three bad, viz.: monarchy and tyranny, aristocracy and oligarchy, and commonwealth and democracy, are, of course, exemplified in history, and the evolution of government will necessarily supply another main thread of historical study. But it must lead on to the goal of democracy as the ultimate form of government.

It is necessary to note, however, that what is logically best may not be without serious drawbacks and dangers when translated into the sphere of public affairs. "There still remain sternly antithetical to each other two inconsistent views of the true basis on which a constitution ought to be founded; namely, that of procuring the absolutely best law and administration, and that of procuring law and administration which, if perhaps not the best, yet is the best expression of the clearly ascertained will of the people, or of the preponderant majority of the people at the time."⁴ Put simply this means that the logically best government may not govern best, and conversely. Napoleon, autocrat though he was, never interfered with the peasant proprietorship of land; Henry the VIII, the claimant of divine right, laid the foundations of religious liberty for his subjects. The English commonwealth was marked by much oppression, the American commonwealth, we are told, is marked by much

⁴ Amos, op. cit, p. 183.

corruption. Illogical forms of government have succeeded while logical forms have failed.

The logic of democracy is one thing, the translation of its logic into actual fact, through the evolution and organisation of the machinery of government is another. The problem on its domestic side, as distinct from its international side—the relation of nations to one another in the great family of humanity—is the problem of embodying ethical ideals and such mutual obligations as the history of a community has shown it is necessary to make imperative, in the form of law. Both factors must be taken into account, and the peculiar genius and traditions of the British make it necessary to do so in the inverse order to that in which they have been mentioned in the preceding sentence. The lessons of experience and history must be the basis of the structure: the practices, customs, and traditions which the life of the nation through the centuries has shown to be essential to its continuity and well-being. It will, however, be an essential part of the statesman's task to extricate the universal elements which transcend the conditions of time and place in which they are found, those perhaps inarticulate impulses and tensions towards a better order of things which, in the corporate life of a community, correspond to the fringe—the universal element—accompanying individual psychoses. And not only to extricate them but to weave them together into a constructive ideal policy whose aim is progress and betterment. “A law is . . . a sentiment and something more, viz., the point of view of social good.”⁵ Again, “the law itself must be created by the social spirit it aims at creating.”⁶

Thus, on one side there is the problem of weaving collective experience and the ideals it adumbrates into the texture of law imperative on all. On the other side is the ever-progressing problem of applying or administering it. And merely to name its two aspects brings home the extraordinary difficulty of making democracy a reality, of translating logic into practice. The very complexity of modern political units, the locality, the nation, the commonwealth of nations, with the far-reaching ramifications of the mutual interests of

⁵ Bosanquet, “Philosophical Theory of the State,” p. 39.

⁶ Rousseau, quoted by Bosanquet, op. cit., p. 40.

the constituent members, as well as the inherent difficulty of that adjustment of political experience and political ideals just referred to, enhances the task enormously. We have gone some way towards evolving the machinery of representation. But the double task of educating the people up to an appreciation of the responsibility involved in representative government, and educating the representatives up to it, the first the problem of the schools and life, the second that of the universities and life, has been but begun. We have but embarked on that great enterprise, the root problem inherent in democracy.

Our immediate aim is the theory of education as the adjustment of the individual to this second world rendered stable by human law as the first is by natural law. The question of the sphere of law and government arises. It is clear that the sphere has boundaries and limits, changing with the developing organisation of society and especially with the growth of impulse to social obligations, but always leaving a region of actions and activities where moral and religious sanctions alone can have sway. Were it otherwise, there could be no truth in the view that the state is the organ of freedom as well as of order. "The fundamental idea of Greek political philosophy, as we find it in Plato and Aristotle, is that the human mind can only attain its full and proper life in a community of minds, or more strictly in a community pervaded by a single mind, uttering itself consistently, though differently, in the life and action of every member of the community."⁷ If this fundamental idea is to be an ideal towards which, making allowance for the wide discrepancy between Greek and modern political life, we should progress, law and prescription must leave room for individual freedom and choice. It is, of course, not the task of an essay like this to define the sphere of law. We are concerned only with the broad features of the political structure. This much is clear, however, that the structure of society on its political side must leave scope for freedom as on its economic side it must leave scope for initiative. Indeed freedom and initiative are logically prior postulates to the conservation of which legal and economic restrictions must be subordinate.

⁷ Bosanquet, op. cit, p. 6.

For the details as to the way representation is secured, so far as it is secured, the student must be referred to the appropriate authorities. The progress of enfranchisement, the tardy recognition of the right of woman to share directly the responsibilities of citizenship, the relative claims of majorities and minorities under a democratic system, the problem of party government, and related political questions, will emerge in any rational scheme for the teaching of history. So also will the constitution and procedure of parliament, the nature and extent of the control which the legislative authority can exercise over the executive authority. Of fundamental importance, too, is the question of the system of national finance, involving public debt and its redemption, public revenue and expenditure, as well as the whole question of taxation and national services. These problems should all be envisaged from the point of view of the reality or artificiality of that participation in self-government for self-realisation which democracy implies or ought to imply. Real responsibility and a real opportunity for all to live the best and fullest life should be the political aim, and the educational aim must consequently be the adjustment of the individual to this social life, an adjustment first of intelligent understanding, then of enthusiastic participation.

§3. So far we have only noted the scaffolding of the structure of society. Now we have to look at it as a complete bit of architecture; or rather, since any metaphor carrying a static implication would be seriously inadequate and misleading, as a developing organism. The relation of soul to body, of wind to sails, of life to structure, is helpful at this point. We want to know whence the life, the wind, the soul of the whole is derived. As has been suggested, the laws of a country embody at once its history and the aspirations which transcend history and reach out towards an ideal polity; while in its economic existence, as we shall later see, we are face to face with its very life blood. Still, more is needed to create its individuality and that we find in the conception of nationality. That conception we must now briefly consider.

It would be untrue to say that there is any necessary connection between democracy and the first stage in the development of nationality; but nationality will not develop its

possibilities as a moral force until a nation is responsible for its own destiny. It is like an individual in this respect. It comes to a consciousness of itself while yet in leading-strings but it does not begin to realise its full self until self-government is added to self-knowledge. Edward III. and Henry V. are alive to-day, not because of French conquests, but because beneath their banners England was consolidated. The unifying process was quickened and vitalised when Elizabeth's sailors saved England, for defence is greater than offence as a factor of this process. It was not, however, until the seventeenth century that it was consummated, and the consummation was reached when the fight for political freedom was won. In this connection we may quote a modern historian: "There are two political movements at work in Europe in the half-century following Waterloo. One, the birth of the French Revolution, is the popular demand for the expression at least of the popular voice in the government. The other is the nationalism which has been quickened by the Napoleonic wars; a demand in part for national independence of alien control, in part for the unification of broken-up and divided nationalities. The two movements are found working simultaneously in some regions; but there is no law of association between them. Italy in her struggle for liberation and unity succeeds not under republican leadership but under the constitutional monarchists. German unity is achieved by statesmen who have no popular leanings. But in 1871, fifty-six years after Napoleon's sun had set, when the later Napoleon's sun had set also, Germany was at last a consolidated empire, Italy was a consolidated and constitutional kingdom, Greece and Belgium were constitutional kingdoms, and the release of the Slavonic states of the Turkish Empire from Mohammedan control was in the near future; while in Great Britain the balance of political power had passed first from the land-owning class to the manufacturers, and then from the manufacturers to the 'working' classes. The only countries in Europe where unqualified despotism survived were Russia and Turkey."⁸ We appear, then, to be justified in asserting that the higher developments of nationality will be conditional upon the development of self-government.

⁸ Innes, "General Sketch of Political History," p. 376.

That the evolution of nationality is closely connected with the evolution of democracy appears, indeed, both from *a priori* and from *a posteriori* considerations. A nation, whatever else it may be, is a social unit conscious of itself, confident of itself, and determined to pursue its own life. It possesses individuality and we should assume, without the teaching of history, that this stage of development, this measure of self-knowledge, self-reverence, and self-control, this conscious, if in some respects inarticulate, determination of its own destiny, could only have been reached through the experience of some measure of democracy. History supports the assumption, in its general outline at all events. The nineteenth century is generally distinguished as the era of the rise of nationalities. It is also the age when the participation of the people in their own government became a feature of European history.

When the grip of Rome loosened and its partially disintegrating influence on the tribes and peoples which had fallen under its dominion was no longer felt, segregating ties of blood, language, and traditions, together with geographical frontiers, laid the foundations of future nationalities. The rise of monarchs and dynasties, resting on the feudal system, gave added coherence to communities. It was, however, an artificial coherence based on force; and nationality is a growth from below and within, not from above and without. Moreover, the new spiritual order of Rome was, like the temporal order, in its political effects disruptive. The renaissance and the reformation were forces working in the direction of emancipation and freedom, but the old monarchical order was too firmly entrenched in ignorance and power and, it may be added, in some cases in potentiality for the betterment of peoples, to yield readily to the new. So that two thousand years elapsed after the dismemberment of the Roman empire before the possibilities of true national development which it left behind came to fruition.

We may take it, then, that real and fundamental unity and solidarity appear first in a political unit when the political freedom of its members is secured by self-government, whether in the form of constitutional monarchy or democracy. Freedom, the power and the opportunity to realise the highest aspirations of the individual self, is the most valued of

human possessions, and the polity which is based upon it, is the one likely to be most permanent. A polity founded on freedom may be coherent enough to include different nationalities. The British Constitution embraces English, Scotch, Welsh and Irish, although the pathetic case of the latter is a negative instance, many of its members would hold, of a polity based on freedom. The Dominion of Canada embraces British and French communities. The Union of South Africa embraces British and Dutch. The federal polity of Switzerland has been able to hold people of French, German, and Italian descent in proud amity. Many nationalities have been absorbed in the political freedom of the United States.

While, therefore, the political unit based on political freedom may be greater than a nation it must be noted that nationality is among the most powerful unifying forces. This follows, of course, from the fact that it is ultimately a tie of blood. Out of blood-relationship has sprung community of language and all those warm and intimate associations from which the habits, customs, and traditions of a nation emerge. So strong and intense are these ties of blood, language, habits, and traditions, that the coherence of a polity based on political freedom would be immediately endangered if national ideals and aspirations were in any way infringed or thwarted. On the other hand, however, the world war just concluded has furnished the most signal example in the history of the world of the way in which different nations can unite under the banner of freedom and pour out their blood and their treasure for the sacred ideal of liberty. It would seem, indeed, that it should not be beyond the possibility of wise statesmanship to find room for national ideals and to harmonise national aspirations within a single polity. And the justification for the hope is that ties of blood and language, strong and intense as they are, are not final and ultimate like the ideals of freedom and human worth, on which religious impulse and inspiration rest. When the flag of freedom flies over a political organism its unity, coherence and solidarity appear, indeed, to be made more permanent by the inclusion within it of different nationalities. The solidarity of the British Commonwealth taken as whole, tried and proved in the crucible of war, seems

a positive proof of this, just as the comparative lukewarmness of the French province of Quebec in its response to the call of the blood, appears to be a negative proof. Cleavage in national unity, in this case perhaps due to the rock of religious ideals, may, like a family feud, obliterate the straight path of common duty.

§4. If freedom is to be the effective cement of different nationalities in one political union at least two conditions must be fulfilled. One is the bond of a common earth and sky, the other the bond of a common history and destiny. The first stands in the same intimate relation to the soul of a people as a man's body to his individual soul. The effect of national frontiers in consolidating political unity is proved by history, and by what is even a surer guide than history, namely, national poetry. Who can doubt that the isolating effect of the sea has contributed to British solidarity? The United Kingdom, "that precious stone set in a silver sea," Switzerland, and Spain, are instances which immediately come to mind. Their physical compactness cannot but have contributed to that unity of sentiment which finds its highest focus in the ideal of freedom. If it is wholly or relatively incomplete, one condition favourable to centrifugal social and political tendencies, is present and is bound to be operative. Ireland is an obvious case. Even were there no historical memories, and no religious differences, working in the direction of disunion, the Irish Sea would remain a physical obstacle which community of political interests would have to surmount. A negative instance is supplied by the artificial boundary which, for a thousand miles, separates Canada from the United States. Is not much of French history in its international relations, and particularly in its earlier relations with the German States and in the nineteenth century with the German Empire, to be interpreted by the aspiration that the Rhine may wash French soil? Is there not a factor, favourable to the permanence of the Union of South Africa, in its geographical unity? Within natural political frontiers there are also the strong associative links of recurrent physical features. Karroo and veld in South Africa, forests, rivers, and plains in Canada, highlands, rivers, and lochs in Scotland, mountains, streams, and moors in Wales, hills, downs, plains and tidal reaches in England, what are they all

but the very substance and framework on which national solidarity rests? Climate, again, is a background against which the edges of distinct national or provincial elements shade off and disappear. It is not a mere fancy to suppose that the United Kingdom owes much of its unity to the magnificent sequence of its seasons, and that South African unity will be furthered by nature's gift of bright sunlight and blue skies. The songs of the poets may be called in evidence.

The second condition is a measure of historical continuity, the time factor in the development of political unity. Here we are face to face with spiritual forces, and they are, perhaps, more powerful than physical conditions because their strength is cumulative along the line of history. The coherence of the various elements in the British polity is largely due to the fact that through many centuries they have combined, in spite of national and provincial differences and jealousies, in the struggle for political freedom. Every victory of enfranchisement has been won, not so much by the clear vision and tenacity in moral purpose of this or that political leader, as by the accumulated momentum of the tradition of centuries of struggle and sacrifice for the great cause of liberty. It must not be forgotten, however, that this same force of tradition and political memory may act in the opposite direction by cherishing and accumulating sentiment which makes for disruption. The pathetic case of Ireland may be again referred to in illustration. Herein lies the danger of bigoted and short-sighted partizanship of sectional claims and aspirations, whether local or national. It may be that, in the end, higher moral and political ideals will prevail, but the period of struggle and clashing between narrower and wider aims is, as history abundantly shows, one fraught with the gravest danger to the stability of a state and to the highest welfare not only of the polity as a whole but also of sections, provincial or national, included within it. In support of our immediate point, namely, the dependence of political stability on the time factor we may quote Amos. The reference is to the stability of the system of local government in England but it applies with equal force to central government. Writing of the "pre-eminence of England as an authoritative precedent on the theory and practice of Local Government," he says: "One reason is that the primitive

circumstances of the political settlement of England . . . concurred to bring the Local Government of parishes and counties into a special relation with the Central Government of the King and the King's Council which has had no parallel elsewhere. The other reason is that this special relation has been maintained intact, in spite of all sorts of modifications and developments in point of detail for 800 years without interruption from civil strife or external foe."⁹ By contrast we may refer to the extraordinary progress towards political unity made in the Union of South Africa during a space of less than twenty years from the termination of the Anglo-Boer War. But the teaching of history cannot be neglected, and those who refer optimistically to this truly remarkable historical phenomenon will be well-advised to remember that the time factor is wanting and that true and permanent political solidarity can only rest securely upon the accumulated experience of the benefits of union extending over at least several generations. The priceless possession of political freedom has been gained, and it has geographical unity and an almost unique pervasive brilliance of sun and sky to rest upon, but its security lies ultimately in mutual racial tolerance, respect, and magnanimity, growing and deepening with the march of the years.

§5. We may, perhaps, appropriately refer to the Union of South Africa in a further brief elucidation of the point we are here concerned with, namely, the element of nationality as one of the strands in the social and political fabric. We described it as the soul compared with the body, wind with sails, life with structure. "The newer aspect of political independence" (to quote Amos again), "which may be assumed to be the permanent one, rests upon real and not upon fictitious, accidental, and temporary, foundations. It has deep roots in distinct geographical lines of demarcation, in language, in race, in community of religion, and of political antecedents."¹⁰ Of these five roots the first and the two last may, from a wide point of view, be said to exist in South Africa. The first certainly does; community of religion may be claimed also, for omitting the small minority of Roman Catholics, differences are only those which exist

⁹ Op. cit, pp. 281, 282.

¹⁰ The Science of Politics, p. 352.

within the broad bounds of the Protestant faith; and Britain and Holland, the dual ancestors of the two European races of South Africa, can boast the longest rivalry in the struggle for political liberty. The two remaining factors, ultimately one, undoubtedly present an obstacle to complete political unity which it would be idle to under-estimate. Such an authority as Dr. Holland Rose is of opinion that it is not an insurmountable one. He writes: "In the Swiss House of Parliament at Berne . . . there are men who speak French, German, and Italian; but the feeling of unity . . . transcends mere diversities of tongue, and merges the fragments of those now warring peoples in a fervidly Swiss nationality, which bids fair to outlast even the divisive influences of this war. It is true that the strain just now on Swiss nationality is very severe; and the sharp tension which prevails between the German and the Latin portions reveals the strength of the tie of language. But here lies the interest of the case of Switzerland. The Swiss cherish a collective sentiment which far transcends race and language, a sentiment springing from pride in a glorious past and love of the mountains around which they cluster. The Swiss will, I believe, remain a nation, and will not merge into the three great peoples that surround them. Their keen historic sense, their romantic attachment to their mountains and rivers, will keep them united. In this respect they are the 'earth-born souls' at whom Fichte scoffed; and this clinging to the soil, this pride in their achievements, will, I venture to say, help to keep Switzerland a united whole."¹¹

Britain, the United States, and Belgium, furnish irrefutable evidence of the unity and coherence of different nations, or of citizens of different national ancestry, under the flag of freedom. There are, indeed, historical as well as moral grounds for the belief that, not only will the irrational friction of racial aspirations disappear in the serener atmosphere of political, social, and moral freedom, but that diverse elements are a source of strength. The language problem is one which can be solved if it is approached in a spirit of tolerance and magnanimity. Can it be doubted that the existence of two sources of literary inspiration instead of one will

¹¹ Nationality in Modern History, pp. 47, 48.

ultimately be a gain to the whole political community? There can be no doubt that acquaintance with two languages instead of one is a gain in intellectual alertness and vivacity. The difficulty of intercourse is a real one, as any observer of parliamentary, legal, and commercial procedure must admit. But it can be removed by being surmounted, and it can be surmounted if each citizen is determined to be proficient, within the limits of his capacity, in both. What is before all things necessary is the conviction that a man's native language, the language he learns at his mother's knee, is a thing sacred to him, and entitled, because of its sacredness, to the fullest and most complete recognition and respect. It remains true, however, that race and language are subordinate to the higher calls and claims of citizenship. For citizenship, membership in a political organism founded and rooted in freedom, means the opportunity to develop the best that a man has in him. And after all humanity is broader and greater than race or nationality. There is, indeed, every reason to believe that Briton and Boer can find room for their racial aspirations, and at the same time join their strength, tried and proved in history, in maintaining a great South African nation.

We must quote again to support the view that the unity of a polity based upon a high ideal of freedom and the value and claims of the individual, may be and should be strong enough to overcome the disintegrating influences of race. "In proportion as the culture of a people advances, identity of race and blood exercises less power on it, and historic memories exercise more power. Above ethnical nationalities there are political nationalities formed by choice (one may say) rooted in love of liberty, in the cult of a glorious past, in accord of interests, in similarity of moral ideas, and of all that forms the intellectual life."¹² We are here in the presence of the moral order, which transcends in its conceptions and ideals the narrower conceptions and ideals of race, and carries them over into the purer moral atmosphere of humanity. For the prejudices, jealousies, and rivalries of race cannot be overlooked, and the danger that the great and inspiring influence of nationality may be prostituted in the

¹² Laveleye, quoted by Rose, op. cit., p. 145

service of the lust of domination is a real one, as history, ancient and modern, too abundantly proves. Few nations have escaped the taint. Nevertheless strength and individuality in nations, as in individuals, is essential to the welfare of humanity. The citizen is a stepping-stone between the householder and the man. "This widening outlook, this pride in the country instead of merely in the county, opens up an immense store of vital energy. There passes through these diverse groups and classes a thrill which makes them one body politic—not a *corpus vile* on which kings and law-givers may work their will, but a conscious powerful entity which bends them to its will."¹³ The thrill of patriotism has behind it the pulse of humanity and will carry a people on into the higher order if only education, in the widest sense of the term can point to the goal. It is the sound doctrine of real universality which is pertinent here again. Patriotism is not a particular, from the instances of which among the nations we are to pass to some detached universal of humanity; it is humanity; it is the embodiment and expression of the universal, caged perhaps within the confines of the inarticulate or even the perverse, but always ready and struggling to escape from its trammels and limitations, and to expand and purify the potentiality which is its very essence and being. The way to the ideal of civilisation is not through any senseless frittering away of the aspirations of nationality; those aspirations are the thrill of humanity itself born in the earth and the sky we love as our home, and in the history and the traditions which are our inheritance from the past. We may repeat that nationality is the life and soul of the social structure, and add that it is the force which, if properly directed, can extend the roof until it is wide enough to embrace humanity itself.

§6. We thus arrive naturally at the point where we may briefly refer to religion as one of the strands of the social fabric. Here we have to take account of what is perhaps the most powerful of human sentiments, capable of overcoming by its impelling force ties of blood, patriotism, and the fear of death. The martyrs of the Roman amphitheatre, the victims of Alva's brutal soldiery in the Netherlands, the English

¹³ Rose, op. cit, p. 142.

Bishops who fearlessly faced the tortures of the stake, and thousands of whose readiness to face torture and death history has left no record, all bear witness to the constraining power of this sentiment of religion. It explains, too, partly at all events, the fanatical zeal of reformers which led to the employment of such means as the horrors of the Inquisition, St. Bartholomew's Massacre, and to every fiendish device for attempting to secure the recantation of religious principles. It explains, further, the failure of all efforts of compulsion and the gradual progress of civilised nations in the direction of liberty. No doubt the focus of the sentiment in the conception of happiness in this life and everlasting salvation in the next, is what has made it the support of the persecuting zeal of fanatics on the one hand and the ready self-sacrifice of the martyrs on the other.

It is evident that a sentiment of such constraining power will cut across bonds of nationality and political unity. The dominance of the Vatican sustained for nearly a thousand years, the growth since the reformation of the opposing forces of Protestantism, the devastating wars of religion, are the testimony of history to the all-pervasive effect, sometimes unifying but far oftener disruptive, of this factor in the development of the common life of peoples and states. During the last century and a half political and economic forces have ousted it from its predominance, but it was certainly one of the most potent influences in the earlier history of Europe, whether by reason of its own intrinsic constraint over the impulses and actions of individuals or as exploited by the leaders of men. At the present time its tendency is rather to create or sustain religious associations within the unity of peoples and states than to be a bond crossing their political boundaries and to any appreciable extent obliterating them. That at least is its positive tendency; and, from a political point of view, its force is certainly diminishing, save where, as in Ireland and Quebec, it serves, or is deliberately used, to accentuate and perpetuate historical animosities. In France, for example, its association with the national polity has been deliberately severed.

There is, indeed, little doubt that the harnessing of the religious sentiment to political or national policy, is, ultimately, an unwise and a shortsighted step. The proper

sphere of the churches is the sphere of humanity just because that sphere is the apotheosis of the nation and the state. As we noted above there is no opposition between nationality and humanity as moral ideals; the first embodies and expresses the second, it may be in an inadequate and imperfect manner and degree, but none the less really and truly just as every instance of a scientific truth expresses and exemplifies that truth within the limitations of circumstance. It is, however, the peculiar and the morally pre-eminent function of religion to purify the ideals of nationality and state and so carry them on towards the higher ideals of the moral order of humanity. It should transmute the inevitable stage of division and intolerance by the alchemy of a common purpose and destiny. We may and must admire the nobility and tenacity of the sentiment which carried the Pilgrim Fathers to New England and the Huguenots to South Africa, but religion has a higher purpose and destiny than the segregation of its adherents. That purpose and destiny is to be at once the basis and the goal of a league of humanity. For an interpretation of that part of the past which is subsequent to the birth of Christianity we must look to the preponderating and often disruptive force of religion in the sequence of political development; for the progress of the future we may look to it as the motive force of true civilisation.

§7. Our aim being to show how religion sometimes crosses and strains, and sometimes intertwines with and strengthens, the other strands of the social world, we must now go into a little more detail.¹⁴ The first point to note is the contribution which the organisation of the church of Rome made to the organisation of society. As a consequence of the amazingly rapid spread of christianity among the pagan peoples of Europe and the fact that its spiritual and temporal interests were administered—to borrow a modern conception—by “a regular governing hierarchy,”¹⁵ it became, in relation to the order and stability of society, the not unworthy heir of the Roman Empire itself. Although in its organisation it had to embrace the citizens of the kingdom of Christ, and was thus not primarily con-

¹⁴ Acknowledgment is due for what follows to Hayes' lucid “Political and Social History of Modern Europe,” Vol. I, Chap. IV, especially.

¹⁵ *Ibid.*, Vol. I, p. 113.

cerned with their segregation in monarchical and feudal units, the main lines of its geographical organisation marched evenly with those of the latter. The Anglican Church, the Gallican Church, the Spanish Church, the Neopolitan Church and the Hungarian Church are mentioned in papal documents or letters.¹⁶ The weight and authority of the church organisation was used to supplement such political and legal organisation as developed slowly and spasmodically through the Middle Ages. Amos points out that "the result of all the investigations of M. Guizot, of Mr. Hallam, and of later writers, into the history of the modern institution of Representation is that this institution is rooted partly in the representative Councils of the Christian Church."¹⁷ We may note in this connection also that to the model parliament held in England in 1296 King Edward summoned a complete body of representatives of the Church; and although the archbishops, bishops, and greater abbots attended not as such but in their capacity of feudal lords, we have here the origin of the association of lords spiritual in political government which remains a feature of the English constitution to this day. That great authority Stubbs may be quoted in this connection. "It is scarcely necessary to point out the special importance of this portion of history"—he is referring to the period just preceding the Norman Conquest—"in its bearing on our constitutional growth. The Church of England is not only the agency by which Christianity is brought to a heathen people, a herald of spiritual blessings and glorious hopes in another life; it is not merely the tamer of cruel natures, the civiliser of the rude, the cultivator of the waste places, the educator, the guide and the protector, whose guardianship is the only safeguard of the woman, the child, and the slave against the tyranny of their lord and master. The church is this in many other countries besides Britain; but here it is much more. The unity of the church in England was the pattern of the unity of the state; the cohesion of the church was for ages the substitute for the cohesion which the divided nation was unable otherwise to realise. . . . It was to an extraordinary degree a national church, national in its comprehensiveness

¹⁶ *Ibid.*, Vol. I, p. 148.

¹⁷ *The Science of Politics*, p. 185.

as well as in its exclusiveness. . . . The unity of the church was in the early period the only working unity."¹⁸ It is, indeed, extremely interesting to observe how in the early establishment of political order in Europe the rôle played by the church was so important, whereas its footing in that domain is now so precarious, even where it has been maintained in the form of a state church. It remains where it began as a cosmopolitan agency, but freed for its great work of consolidating, inspiring, and firing the moral order, by its almost complete emancipation from purely political responsibilities.

Thus the church began as the handmaid of authority. It may also be that she began as the champion of the people. Mr. Chesterton says: "The church, with whatever other faults, worked of her own nature towards greater social equality; and it is a historical error to suppose that the church hierarchy worked with aristocracies, or was of a kin with them. It was an inversion of aristocracy; in the ideal of it, at least, the last were to be first."¹⁹ How far the ideal shaped policy and practice is for the historians to decide. It is established that, as might have been conjectured, the rivalry of church and state dignitaries in the race for power and possessions led to mutual jealousies between monarchs and nobles and popes and prelates, and the first stages in the final cleavage of interests were early in evidence. This final cleavage was confined mainly to Teutonic Europe. The external factors which contributed to it were economic and political. While the church no doubt was a potent means by which the enlightenment and spiritual enfranchisement of the people were furthered, through its religious and educational ministrations and the impetus thus given to the spread of a knowledge of native languages, its estates embodied the feudal system, and in its association with that system it inevitably strengthened the barrier which that system presented to any effort of the peasantry to escape from economic and political thraldom. The internal factor was the attempt, always doomed to failure, to suppress liberty of thought, by claiming infallibility for its interpretations of questions of dogma and authority equal to that of the Bible

¹⁸ The Constitutional History of England, Vol. I, pp. 266-268.

¹⁹ A Short History of England, p. 14.

itself ; and by suppressing the spirit of scientific enquiry into the phenomena of nature. Every such attempt has failed because it tries to dam a stream of spiritual impulse which is inexhaustible, because it has a perennial fountain in the minds and souls of men. It was certain to fail in this case because of the moral degeneracy of many of the members of the very body, the church itself, which claimed these prerogatives of authority and suppression. This degeneracy was due to the immorality attendant on monasticism and celibacy, and to the greed and dishonesty which developed in the struggle for place and preferment. Thus it came about that the reforming zeal of Luther, Zwingli, and Calvin spread to prince and peasant and the end of the sixteenth century saw the North German States, Denmark and the Scandinavian Peninsula, the Netherlands, England and Scotland liberated under the banner of Protestantism from the dominance of the Roman Church. In one century the power which had held sway for a thousand years was shaken to its foundations.

§8. The effect of religious developments on the spirit of nationality is bound to be great because each of them rests upon a sentiment of great unifying power. There can be no doubt that the Anglican, Presbyterian, Dutch Reformed, and Lutheran Churches have been amongst the most powerful factors in the unification of the English, Scotch, Dutch, and North German peoples. In these cases religious and national forces have been concurrent. In the case of English and Dutch this double bond of union was strengthened by successful resistance against the opposing force of Roman Catholicism championed in vain by Philip II of Spain. Negative proof of the same truth is to be found whenever different nationalities one or more of whom adhere to Protestantism and the rest to Roman Catholicism, are included in the same polity. In such a case religious differences are always likely to precipitate political schism. Great Britain and Ireland, the Northern and Southern States of the German Empire, France, and to a less degree Switzerland and Canada, are instances in point. In Italy itself we have the extreme case of conflict between national and religious organisations, a conflict which has proved disastrous to unity

and security throughout its modern history even down to the four and a half years of the devastating European war.

While the relation of religion to nationality may be said to be fundamental and even organic, that of religion to economic facts may be said to be, relatively at least, accidental. It is, however, a recurrent accident in history. Two instances will suffice. The German peasants rallied to Lutherism. They "had grievances against the old order compared with which those of the knights and townsfolk were imaginary. For at least a century several causes had contributed to make their lot worse and worse. While their taxes and other burdens were increasing, the ability of the emperor to protect them was decreasing; they were plundered by every class in the community, especially by the higher clergy. Thus, under the influence of social and economic conditions, various uprisings of the peasants had taken place during the latter part of the fifteenth century. . . . When Luther urged the princes to assail the ecclesiastics, to seize church lands, and to put an end to financial abuses, the peasants naturally listened to his words with open ears and proceeded with glad hearts to apply his advice themselves."²⁰ The Peasants' Revolt was crushed, fifty thousand of them lost their lives and the lot of the survivors was "worse than that of almost any people in Europe." "Another result was the decline of Luther's influence among the peasantry in Southern and Central Germany."²¹ The English parallel was the Pilgrimage of Grace. The monasteries, whatever the shortcomings of their members, were a focus of education, sanctuary and charity for the English peasantry. Their closing led to the peasants' rising called the Pilgrimage of Grace, suppressed with a cruelty which rivalled that with which the peasants' revolt in Germany had been put down. And the pity of it was that the wealth of the monasteries brought no common relief comparable with the real benefits their dissolution took away. It did not pass to the nation but to many aristocratic houses, some founded on the spoil, under circumstances which Mr. Chesterton has with happy irony described as the Rebellion of the Rich.²² These two in-

²⁰ Hayes, *op. cit.*, Vol. I, pp. 133, 134.

²¹ *Ibid.*, Vol. I, p. 135.

²² *Op. cit.*, Chap. XI.

stances point to the same truth. The German peasants wanted to escape from despoilation; they wanted a share in the material comforts of life; they wanted a place, perhaps not quite in the sun, but at least in the penumbra rather than the umbra of the shadow; and they thought Protestantism would help them to get it. That was their error. They did not realise that zeal for the salvation of souls does not necessarily imply zeal for the amelioration of bodies. The sixteenth century was not ready for the idea just as the twentieth is not yet ready for the fact. The English peasants faced the same bitter social truth from the other side, so to say. It was not a coming blessing which they were disappointed of, but an existing blessing which they were deprived of. Their protest or revolt met the same fate. They, too, found to their cost that liberation from Rome was no guarantee of liberation from thralldom.

It is to be noted, too, that tolerance was no more a characteristic of Protestantism than of Roman Catholicism. Neither the English nor the Scotch adherents of Calvinism and John Knox fell far short of the inquisition in terrorism and persecution. Religious freedom, like political freedom, does not necessarily follow on a change in the controlling authority. Bolshevism has proved as tyrannical as Czardom, just as Oliver Cromwell was as intolerant as Philip of Spain. As a matter of fact, tolerance, magnanimity, and freedom cannot take root in a narrow, pent, and intensive social life. The strands of society may be drawn too tightly. It is a political unity which embraces a variety of forms of social life and interests, and within which there is opportunity for the mental and spiritual growth of the social groups composing it, that is the home of toleration. For this is perhaps the last of the products of civilisation. At any rate it will only grow and thrive in a community where all the varied educative forces have long been free to play and have, so to say, enriched and made fertile the soil. Tolerance is a function of three variables, length, breadth and depth of culture. It is not surprising, therefore, that its direct opposite was the characteristic of both the religious forces of the sixteenth century. "Religious intolerance had driven Puritans to New England and Roman Catholics to Maryland."²³

²³ Hayes, op. cit., Vol. I, p. 301.

We know how intolerance and religious oppression led to the foundation of the New England States of the American Confederacy. The interesting point for us is the way the religious sentiment burst the bonds of home and nationality. The history of that American seaboard since the beginning of the seventeenth century affords, indeed, an excellent illustration of the way religious, political, and economic factors contribute to the character and cohesion of the social tissue. The Virginian settlers in the South had found their way there under a trade charter. The same commercial impulse had led to the foundation of New Amsterdam, afterwards New York, by the Dutch. Thus the United States had both economic and religious ancestry. The latter proved the stouter fibre of the fabric as appeared in the predominant part the Northern States took in the struggle for political independence and in the victory they won for political morality and freedom over the reactionary elements of the South in the civil strife of 1860 and 1861. The victory of right in the nineteenth century as well as the Declaration of Rights of the eighteenth may safely be ascribed to the same tenacity of purpose and stoutness of heart which, in the seventeenth, had rallied their forefathers to the cause of religious freedom.

The isolated settlements due to religious oppression and the consequent bursting of the bonds of nationality were, however, like a rivulet compared with the tidal wave of religious fervour which carried the Cross of Roman Catholicism outwards and westwards over the Atlantic until it ebbed out on the shores of the Pacific. In the Catholic Empire itself it swept back the counter-wave of the Crescent from Spain, although the eastern arm had run over the Balkan peninsula and threatened the Austrian part of the Holy Roman Empire and was destined to exercise its pernicious influence until the world-war ended in 1919. The focus of Roman Catholic energy was the Iberian peninsular and Prince Henry the Navigator. Missionary enterprise was afterwards linked with, and, in the event, choked by, commercial enterprise, but it was the cult of the Cross that started the wave. Central America, Mexico to the north, and Peru to the south of the equator, were overwhelmed by it. The refugees on the Atlantic seaboard found the long arms of the Roman Church enclosing them along the Mississippi and the St. Laurence.

Although the system based on dominance was doomed to decadence and ultimately fell before the forces of freedom, the social world of to-day still bears the marks of that great outburst of proselytizing zeal. Livingstone in Africa represented the same spiritual agency.²⁴ Wherever we turn to examine that part of the social texture, at any rate, which we call western civilisation we find evidence of the working of this master-sentiment, now dividing nations and states, now extending their frontiers or spheres of interest. From family to humanity its ramifications are to be seen sometimes marching evenly with lines of social demarcation and consolidating the social units they enclose, sometimes crossing them and dividing their constituents, but only to unite some of them again within a wider spiritual polity. To this astonishing social phenomena Mr. Kidd has applied his illuminating conception of projected efficiency, a teleological idea that in religion, as in other forms of social development, progress is determined by an ideal, though but inarticulately realised, which lies in front.²⁵ Without further illustration or proof we may conclude that the religious sentiment, to whatever focus it is attached, has woven and will continue to weave one of the main strands in the social fabric.

§9. There remains to be noted one other way in which religion affected, and continues to affect, the social fabric, and that is through its educational influence. We are not concerned here, primarily, with religion in its relation to morality as a means of raising individuals to a higher and more ideal life. That matter belongs to the third book. Here our point is rather its relation to the foundations of society, of which education is clearly one of the surest. It is, indeed, a platitude that social stability will only ultimately be secured through enlightenment, and this is true whether we regard society as a political, an economic, or a spiritual structure; or as all three which it assuredly is. The political enfranchisement of the ignorant would hardly be urged by the most short-sighted socialist; freedom has its complement in responsibility and a sense of responsibility implies both enlightenment and training. Economic welfare rests on

²⁴ See Lucas, *Historical Geography of the British Colonies*, Introductory Volume, pp. 10-19.

²⁵ *Western Civilisation*, p. 67 and *passim*.

general efficiency, which is the product of many-sided education or force to the enlightenment of the people. In this when its members are fitted by insight and impulse for the higher ideal life. We have, then, to take note of the fact that the churches have throughout the christian era contributed, directly and indirectly, more than any other institution or force to the enlightenment of the people. In this respect they have maintained an unbroken tradition and practice. Throughout the middle ages the monastery and the cathedral schools were practically the only ones available for the common people, and the missionary monks were itinerant teachers as well as officers of the church. The Catholic Reformation saw the colleges of the Jesuits established. That famous order took one of its main functions to be "to enlighten and educate the young." As schoolmasters they had no equals in Europe for many years. No less a scholar and scientist than Lord Francis Bacon said of the Jesuit teaching that "nothing better has been put into practice."²⁶ Their system spread over most of western Europe and penetrated the new world. It lasted over two hundred years, from the end of the seventeenth till well into the nineteenth century; and the traditional influence of the Roman Catholic Church has been carried on, if the order has gone, especially in the British colonies where convent schools are widely scattered. The activity of the Anglican Church in connection with primary schools especially since the early days of the nineteenth century, is also to be noted.

Before the age of printing, "through the work of the monks in the copying of manuscripts . . . most of the writings of the past that we now have were reproduced frequently enough to prevent their annihilation."²⁷ Again, "one service which monasticism performed for learning cannot be gainsaid. Whatever of ancient learning and literature we have preserved to us to-day, is largely owing to the monks."²⁸ The work they did in consolidating and spreading a knowledge of the vernacular through prayers, sermons, and direct teaching was also a contribution to solidarity. Thus, directly and indirectly, in early days and later days,

²⁶ Hayes, op. cit, Vol. I, pp. 161, 162.

²⁷ Monroe, A Brief Course in the History of Education, p. 119.

²⁸ Ibid, p. 120.

the power of religion and religious organisations helped to lay the educational foundations of society. That the aim was church-membership and that in its prosecution individual freedom of thought was restricted, no doubt admits of the fullest proof. But it must not be overlooked that two results of profound social importance were reached, although the second was not intended. One was the recognition of individual value and work. That is, of course, the fundamental of christianity. The second was that through the educational work done by the churches the individual was prepared, in a measure at all events, to take his place as a responsible member of society. By preparing their pupils for a commonwealth of souls the churches paved the way for a commonwealth of citizens.

CHAPTER III

THE ECONOMIC STRAND IN THE FABRIC OF SOCIETY

§1. The economic element in the foundations of the social world, which we must now briefly consider, stands in the most intimate relations to the other elements. If we picture society as an organism, its political unity may be said to correspond to the skeleton, its economic life to the blood, its national and religious spirit to consciousness and soul. But the moment we have separated the elements we feel that the skeleton figure is altogether inadequate, though it may be apposite as far as it goes; for political freedom is of dynamic quality and an expression of the soul of a polity. Still the parallel serves our purpose, which is to point out the inter-dependence and inter-relation of the elements. In particular it is desirable that to the economic history and life of a people a theory of education should assign a place no less important than that which it, as a fact, occupies in social development. "We cannot sever the merely secular from the purely spiritual and contrast them one against the other."¹ Not only is it true that we cannot do so but that we ought not to do so. It is just within the political and economic spheres that the mind and soul of a people must find room for its uplifting influence. Man does not live by bread alone it is true, but neither does he live without it. The soul of a people is as truly reflected in its political and economic life as in its literature and religion. The latter are not ultimately more appropriate media for spiritual purpose and habit, whether æsthetic, moral, or religious, or all three, than the former.

We may conveniently, and, indeed, appropriately, begin our attempt to isolate the economic strand in the fabric of society by noting the transition through which the tied-man

¹ Cunningham, Western Civilisation, Mediæval and Modern Times, p. 142. This work will be found most suggestive in connection with the problems touched on in this chapter.

became the free-man. We shall have to look back to the second half of the middle ages and the economic structure of society in England.² How far this epoch revealed a fresh start economically or how far it was a continuation of a system existing under the Roman Empire, seems to be a point which historical research has not yet decided.³ Similar uncertainty appears to exist with regard to another matter, namely, whether the economic subordination of the villein to the life of the manor, which we are to take as our starting point, was a development from a previous condition of freedom.⁴ Whether it was a fresh start or a survival, and whether a development from freedom or not, the system under which the life and welfare of the villein on the manor and the craftsman in the town, were subordinate to and dependent on an economic unit which encompassed and absorbed the individual, is a prominent landmark in economic history from which we can well begin.

And we may look at the country unit, the manor, first. "Till nearly the end of the fourteenth century, England was a purely agricultural country. Such manufactures as it possessed were entirely for consumption within the land; and for goods of the finer qualities it was dependent on importation from abroad. The only articles of export were the raw products of the country, and of these by far the most important was the agricultural product, wool. To understand, therefore, the life of rural England during this period, is to understand nine-tenths of its economic activity."⁵ And rural England was only geographically one. Economically and socially it consisted of practically isolated and self-contained units or foci called manors. For a description of the corporate life of these units the student must consult history.⁶ We can only glance at the central figure, the villein, in his relation to the manor and the lord, and at the process by which he became the free labourer, tenant, or proprietor of the land which at first held him bound fast to itself.

² Cf. Cunningham in the Cambridge "Essays on the Teaching of History," pp. 47, 48, for the advantage of dealing with one country.

³ Cunningham and McArthur, *Outlines of English Industrial History*, p. 36.

⁴ Ashley, *Economic History*, Vol. I, Pt. I, pp. 13-16.

⁵ *Ibid.* pp. 5, 6.

⁶ The works of Ashley, Cunningham, and Cunningham and McArthur, quoted, will be found very stimulating.

The manor was the property of the lord. About two-fifths or one-third, called the demesne, was cultivated for his immediate benefit. The rest was villenage and was cultivated by the villeins for subsistence. They "formed a class socially equal among themselves, and all of them, in any particular manor, with the same obligations of service to the lord."⁷ This service consisted of labour for two or three days every week on the demesne with additional days during ploughing and harvest time, when food and drink were supplied. They also had to serve the lord in such ways as carting. They were, moreover, required to contribute in small money dues and in kind to the lord. In return they enjoyed a free holding of usually thirty acres, on the products of which they lived. The holding passed from father to son. While, therefore, the manor was the property of the lord, they were the property of the manor. They were not slaves but they were tied to the earth.

Each of these communities formed a little self-contained world shut off from the rest. "Each group had an independent life economically. The authorities in each manor aimed, so far as possible, at rendering it *self-sufficing*, although they did not disapprove of the disposal of surplus commodities to outsiders. To supply all the wants of the inhabitants from the resources of the manor was a sign of good management, though it was of course occasionally necessary to buy some articles at markets or fairs, or from travelling chapmen."⁸ Also the villeins of each group "formed a sort of community on the estate. They appear to have been collectively responsible for the work, so that if one failed, the others had to make up for his deficiencies. The *praepositus* was their own elected officer, who ruled them in their own interest, and was their spokesman with the lord or his steward. Though they were, in some ways, in a servile position and restricted to the land, they had yet a definite social status which they may well have valued. Outsiders who were dependent on casual employment, and who had little, if any, land to work, were in a certain sense free, as the villeins were not, but it hardly seems that the free labourers

⁷ Ashley, op. cit., Vol. I, Pt. I, p. 8.

⁸ Cunningham and McArthur, op. cit., p. 30.

were a superior class till after the agricultural revolution which followed the ravages of the Black Death in 1349."⁹ It may be added that the manor formed a military, judicial and fiscal unit as well as an economic one.

It is possible to paint the life of the peasantry, as we now call them, under these conditions, in either rosy or sombre colours. No doubt there were times of plenty; and to have a stretch of earth to cultivate, even though it owned you instead of you owning it, must have sometimes suggested to the villein something of the nature of human worth and dignity. No doubt also there were times of want and even famine; and the tales of the pedlar as well as the sermons of the monk, must have carried his thoughts beyond the confines of the manor to a world of wider chances if also of greater risks. What must have galled, from time to time, were the economic conditions which so hedged in and circumscribed life. The only competition those conditions themselves, as distinct from loyalty in service, evoked, must have been a competition to evade obligations. It is not to be expected that the sickle of the villein swished as quickly and as resolutely through the grass of the demesne as through that of the villenage. What security and comfort in life there was, must have been, to a large extent, that of the stalled ox. There was neither liberty nor competition as we understand them.¹⁰

The first step out of this condition of servility was taken when the villein gained the right to substitute a money payment for personal service. And it was a vital step. It was a step across the line which separates bondage and freedom. There is no doubt that the command over a villein's body and strength, which the lord of the manor had by right and not by contract, gave a servile character to the former's position. It was an immense step in emancipation, therefore, when his time and strength became his own. This commutation of labour and service for a money payment was welcome to the lord also. Not only did he cease to have to drive an unwilling worker, but money enabled him to regulate labour to the needs of his demesne. Emancipation was a

⁹ *Ibid.*, pp. 39, 40.

¹⁰ Ashley, *op. cit.*, Vol. I, Pt. I, p. 42.

gradual process depending partly on the growth of population and of a supply of labourers. Slow as it was, however, it was sure; and at the end of it there emerged a free tenant and a free labourer. And it was hastened by a visitation of the plague known as the Black Death. This "killed off, roughly speaking, about half the population,"¹¹ and incidentally it killed the manorial system. Labour being scarce and thus in a position to ask for wages which the estates could not carry, the inevitable result was the breaking up of the demesne into holdings to be let. First land and stock were leased; then land and buildings only. The rural revolution destroyed the last traces of villenage. The signs of the economic freedom and the religious freedom of the individual made their appearance in English history during the same epoch, that of the Reformation.

§2. Thus the barriers which had kept the manors in the position of self-sufficing and independent economic units were gradually broken down, and they became more dependent on the economic life of the realm as a whole. Tenants arose where villeins had been, with a tenure gradually safe-guarded by the king's judicial officers, the justices of the peace, and not by manorial courts; and the same process set free a body of agricultural labourers. A process which in its general economic tendency was of a similar character was going on in the towns, though here it was evolutionary rather than revolutionary. Towns and manors reached the same goal, that of central, and ultimately national, regulation rather than local control. Whether they started from the same point, that of free association among their members, is a matter about which history has as yet made no final pronouncement. It is certain, however, that the towns threw off many of the feudal and ecclesiastical shackles which in some cases originally encumbered them, at an earlier period, and attained a considerable measure of corporate strength. In their case, fiscal, judicial and economic self-control were early landmarks on the road to the freedom of representative government and to corporate action. Nevertheless they too, like the manors, passed from the stage of relatively independent and self-controlled

¹¹ Cunningham and McArthur, op. cit., p. 41.

economic nuclei to that of more general subordination to the economic life of the realm as a whole. They were distinguished from the manors from the beginning by the very fact that in so far as they were commercial units, their threads of connection were longer and stronger; in some cases stretching through the agency of alien merchants to the continent and even to the distant east. And the sharpening of wits which commerce at first and industry to a greater extent later, brought about, developed a spirit of enterprise lacking in the more backward, because narrower and more restricted, life of the manors. Still, looking at their development broadly and generally, it carried them to the same goal as the manors: a goal exemplified by representation in the model parliament of Edward I.

We must glance at the details of this development. It followed the course from the homogeneous to the heterogeneous which Spencer thought to be the cardinal principle of all evolution. In the beginnings of urban life the same individual was a citizen, a trader, and a craftsman. The terms connote a stage of development which came later, but the germs of civic, commercial, and industrial life were there, and they were there at first, if the practically servile elements are excluded, in each member of the community. Burgher, trader and craftsman were one. "The work of the later centuries was not to separate functions which had never really existed, but to bring out of an undifferentiated industrial activity the various classes with their separate functions that are indicated by our present economic phraseology."¹² It was an economic and a political condition which offers a fertile field for the imagination. Mr. Chesterton has cultivated it and has given us an alluring sketch in an optimistic vein.¹³ Whatever the sober historians may have to say about his rendering of the meaning of Merrie England, there seems to be no doubt that the towns were the centre of much communistic vigour. The merchant guilds succeeded in getting civic and monarchic recognition of their claim to trade monopolies, and they guarded and developed their privileges with zealous if also exclusive partizanship. They were particularly watchful of the activities of the alien mer-

¹² Ashley, op. cit., Vol. I, Pt. II, p. 101.

¹³ A Short History of England, Chapter VIII.

chants who brought the products of France and Flanders as well as the luxuries of the Eastern trade, to the annual fairs. They shut them out from retail traffic. This negative activity had its complement in their positive support of their own members who went forth to prosecute the advantages of inter-municipal trading. They took care as zealously for the London trader in Norwich as they watched suspiciously the activities of the Bruges merchant in London. And the merchant guild was a religious, social and philanthropic organisation as well as a commercial body. It watched over the general welfare of the members as keenly as it looked after their commercial integrity.

Perhaps more interesting economically was the early identity of making and selling, of the craftsman and the shop-keeper, to use terms which only at a later stage became really applicable. The same individual was artificer and trader. The workshop was also the shop. At a very early stage even manor and town coalesced. The artificer and trader was also a villein of a feudal or monastic manor. Gradually differentiation took place. Value in utility was followed by value in exchange:¹⁴ a process accelerated by the existence of coins. The craftsman in leather emerged and he became also the dealer in leather. His capital was his tools and his skill, but with the establishment of market days, when manor and town met for purposes of exchange, it is easy to see how the stall and shop came into being. The day of the English middleman arrived and he was to follow to the uttermost parts of the earth in the tracks which the Phœnician, the Arab, the Jew, and the Italian and Flemish merchants had opened up. As an element in the social fabric contributing to its life-blood, his position was secured. And its importance continued to increase with the centuries. The decay of the merchant guilds was but an incident of evolution of which the next was the mercantile system. The middleman, the intermediary between producer and consumer, had come to stay, and his function is now vital to economic life.

§3. The civic cleavage which produced the merchant also brought the craftsman into being as a distinct economic unit. The story of the rise of the craft guilds and their

¹⁴ Ashley, op. cit., Vol. I, Pt. I, p. 93.

decay, or rather their absorption in the national economic life, to emerge again as trades unions, is an interesting chapter in economic history. A detailed and penetrating account of it will be found in Ashley's *Economic History*.¹⁵ They resembled the merchant guilds in many ways. There was the same strict supervision, the same zeal for the welfare of the guild as a corporation and for the welfare of individual members, and the same exclusiveness and particularism. "The distinguishing feature of a craft gild was not merely that its members all practised one and the same craft, but that they had authority to supervise that craft within some definite area. The craft gilds had very extensive powers for the regulation of their trade. The wardens had the right of search, and exercised it to see that good materials were used, and that the processes of manufacture were properly performed."¹⁶ Their importance for us is the effect they had as economic units on the social fabric. They held together the craftsmen as a series of social groups whose members had the same material interests, were alive to the necessity of maintaining a high standard of efficiency, and of excluding, as we shall in a moment note, an increasing class of unskilled workers from all opportunities of competition with them.

We have to look at economic history primarily as "concerned with the evolution of social organisation."¹⁷ That phrase expresses exactly our point of view. We must now, therefore, note that the evolution of the craft guilds gave rise to a working class, the journey-men, in much the same way as the evolution of husbandry gave rise to a class of agricultural labourers. They came into existence through the natural jealousy of the master craftsman for his own material interests. It was a division among the ranks of what we should now call labour itself, and has its modern parallel in the distinction between the artizan and the unskilled labourer. So far as such a division is based on craft efficiency, it is likely to commend itself to students of sociology. It must, however, be balanced by another social principle of equal importance, namely, that of equality of opportunity for ability proved in free and unrestricted competition. There

¹⁵ Vol. I, Pt. I, Chap. II, and Pt. II, Chap. II.

¹⁶ Cunningham and McArthur, *op. cit.*, pp. 60, 61.

¹⁷ Ashley, *op. cit.*, Vol. I, Pt. II, p. 285.

seems to be no doubt that journeymen appeared, or rather their number was increased and the class perpetuated, mainly through the restriction of the operation of this latter principle. No doubt the former was a positive operative factor, but the main one was the natural, if selfish, desire of the master craftsmen to keep their industrial rights and privileges within their own hands, and to make of the crafts guild a close corporation, fenced in as securely as possible. The lingering on of the feudal spirit, even when the feudal system was dying, no doubt helped to fix this industrial hierarchy, justifiable and laudable on a basis of efficiency, but unjustifiable and condemnable on a basis of exclusiveness. At any rate, the journeyman appeared and he has remained, an ever-present social and educational problem.

Apprenticeship is also a social phenomenon which emerged from the guild system; and here economic evolution rises to a higher moral plane. The regulation of the institution of apprenticeship seems, on the whole, to have been long-sighted and to have envisaged the all-round welfare of the boy. There can be no doubt that the high standard of craftsmanship reached and maintained during the later middle ages, was mainly, if not entirely, due to the long and thorough training which each apprentice had to go through. It is true also that the patriarchal and family relationship into which the apprentice was admitted, meant a close supervision of his general and moral well-being. Indeed it is a modern educational problem of vital importance how, under changed industrial conditions, something of the thoroughness and liberality which characterised the guild apprenticeship system can be revived. That point will be dealt with in a later chapter.

§4. For an estimate of the economic value and importance of the guild system and a summary of its general features we may be allowed a lengthy quotation from Ashley. "It has been well said," he writes, "that no great institution—such as the Gild System—can satisfy every side of human nature; that, while satisfying some, it necessarily hampers and injures others. Thus the Gild System was never an ideal system, in the sense of meeting all the needs of all the men of any epoch. In its essence a system of control, it was bound up with its very nature that it should hinder

to some extent freedom of enterprise and independence of individual initiative; in its essence a system of restriction, it was inevitable that while protecting those within, it should bear itself harshly and repellently towards those without.

. . . Speaking generally we may say that in the later Middle Ages the time had not yet come for the free play of individual enterprise. It was rather a time when elementary conceptions of good and honest work needed to be driven into the general conscience by minute rules rigidly enforced; when what was required was discipline rather than spontaneity. Then, again, it was a time when in the absence of a strong national government, the individual artizan or trader needed the support of an organised body to protect him against the violence of the powerful; and with protection necessarily went control. A tree is known by its fruit; and by its fruits the Gild System may well be judged. Within it grew up a wide middle-class of opulent traders and comfortable craftsmen; and it was the appearance of this class by the side of, and, in a sense, between, the lords of the soil and the tillers of the soil that led to the transformation of feudal society into the society of modern times. . . . Then, again, it is the merit of the Gild System that it did for a time, and in a large measure, succeed in reconciling the interests of consumers and producers. . . . The gild legislation kept steadily before itself the ideal of combining good quality and a price that was fair to the consumer, with a fitting remuneration to the workman."¹⁸

The effect of the economic evolution of commerce and industry in towns up to the close of the Middle Ages was thus similar in its general tendency to that which agriculture experienced. That tendency was to break down more or less isolated units and to merge their interests in the economic life of the realm as a whole. The tied-man, of guild or manor, gave place to the relatively free tenant, artisan, and labourer. Local regulation and supervision was superseded by central; and we have now to consider, again broadly and in outline, what the change meant for that process of adjustment of the individual to the social order which we are trying to understand.

¹⁸ Op. cit., Vol. I, Pt. II, pp. 167-169.

§5. We saw in the decay of the manor and the guilds as economic institutions this important phase and feature of that adjustment, namely, the transition from tied-man to free-man: to a free tenant, artisan or labourer. And it was undoubtedly a great move onward. Freedom, however, is always relative. It is freedom within certain limiting conditions; and this is as true in the economic as in the moral sphere. We have noted that these conditions were now of wider circumference, for their radius was that of the realm instead of that of the town or manor. We have now to consider their nature, and we may take the policy of Edward III, first, as an example of them.¹⁹ His economic principle appears to have been that of free exchange of surplus products between England and France and Flanders. This is the idea of free trade to which modern England has returned and which has been the source of so much of her prosperity. The conception of nationality, another of the strands of the social fabric, as we have seen, is here subordinate. The predominant idea is that of plenty. Two other results of it may be noted. It failed to stimulate national industry because the surplus products of the time were raw materials in wool, wool-fells, hides and lead.²⁰ It also had the effect of handing over the shipping trade and wholesale commerce to aliens. England was not ready for it, and fell behind in the competition. Moreover, the adoption of the system of staple towns as avenues for English imports and exports, was, it appears, a fiscal rather than an economic measure. That is to say it was a convenience for the collection of revenue, in the shape of customs, rather than, or at any rate as well as, a commercial convenience. The policy of Edward III was consequently short-lived. However liberally conceived, it aroused the natural opposition of English traders and it failed to stimulate English industry. The idea of plenty was superseded by that of power and economic activity was thereafter destined to be shaped, for several centuries, by this policy of national greatness and expansion. In this way the English mercantile system, to be referred to later, developed. It will be convenient to look at the broad features of agricultural, industrial, and commercial development in the order

¹⁹ Cunningham and McArthur, *op. cit.*, pp. 74-78.

²⁰ *Ibid.*, p. 78.

named, under the new national conditions; and then at the food problem.

The land which had been the framework to which the rural community had remained attached at its manorial foci, ceased, after the Black Death, to afford an anchorage to the surviving smaller villeins and cottars who had supplemented the products of their small allotments by their wages as labourers. The scarcity of labour, the difficulty of paying the wages asked, and the demand for wool for export to the low countries made the proprietors of the manors turn their attention to sheep farming. The enclosure of common lands, by the buying of small holders or their compulsory and sometimes, it appears, illegal ejectment began. Sheep began to eat men.²¹ The agricultural labourer gained his freedom but too often at the price of pauperism and vagrancy. The closing of the monasteries shut off the main source of alms. Vagrancy, beggary, and theft became rife and the problem of poor relief began to be a national concern, and one which has not yet been solved. An incidental difficulty was that of the food supply, which will be noted separately. Some measure of relief came from industrial development, which is also touched on below. Meanwhile, the revolution which changed the land from a means of subsistence to capital used for purposes of profit, divided the rural community into two classes whose interests had previously been one, but were now opposed, namely, the landed class and the labouring class. The antagonism then initiated has remained as a permanent danger to the stability of the social fabric. It is an economic problem, one of the most serious, which faces young countries as well as old. In South Africa, for instance, the bijwoner class without any sure anchorage on the land, and yet without inclination or training for industrial life, a rural derelict, so to say, presents one of the most serious problems for the statesman. The rural victim of economic development is, perhaps, the most pathetic of all, for he is without means of sustenance in the midst of nature's opulence. In England the condition of the agricultural labourer was subsequently improved owing to the greater demand for his services which arose from a partial return to tillage and the development of a more intensive system of

²¹ Chesterton, *op. cit.*, p. 135.

agriculture. The point for us to note is the dependence of the welfare of this element of society on the system of land tenure and on the way, through the working of economic factors, the land is used. The story of the more or less futile measures of poor relief which have been tried, shews that on this side of the national life nothing like a solution has been reached. Whether we shall revert to the manorial system of allotments to enable the labourer to eke out his scanty wage is an interesting problem. Schemes for such settlement are being developed in South Africa.

§6. Industrial development presents a brighter picture. The four recognised stages are the family system, the guild, the domestic system and the factory system. The two first-named are local products, the third developed under the central control of industry, while the last is the outcome of the unrestricted competition of the nineteenth century which is, however, now being brought under central supervision and regulation. The nationalisation of industry is a development urged by labour. Our concern is, not the economic value of the various developments, but the import of the economic factor in the social fabric. From that point of view we have noted the guild system and may now glance at the domestic system. Its evolution is connected with the agrarian revolution on the one hand and the commercial revolution which we have yet to comment on, on the other. We may say summarily here that the former produced the raw article, wool—for it was the woollen industry on which industrial England was mainly based in the period from the end of the Middle Ages to the age of invention at the end of the eighteenth and the beginning of the nineteenth centuries—and the latter found the markets for manufactured woollen goods. The domestic system meant spinning and weaving wool in the homes, and later on a larger scale in the buildings, e.g., derelict monasteries, which formed the transition to the factory. It was differentiated from the guild system in the fact that, broadly at any rate, it meant free participation and competition for all who were capable of producing. There was restriction and regulation, e.g., as to the period of apprenticeship. But the system was a distinct step towards economic freedom, and it was not accompanied by such disastrous effects as the agrarian revolution

brought in its train. Moreover, it found employment for many of those who were squeezed out of a living on the land by the process of enclosure of common lands. They became apprentices and journeymen of the woollen industry. We may clinch this point by quoting Ashley again :

" It is when we turn to the industrial conditions which took the place of the gild system, and to the agricultural changes with which the transition was accompanied, that we begin to understand how great a part the woollen manufacture has played in English social history. For the extraordinary and rapid success of that industry brought about not only the downfall of the gild organisation within its range, but also a far-reaching change in English agriculture. Now that there was a constant and increasing demand for wool, it became the interest of the landowners to raise sheep rather than to grow corn, especially as the great increase in the cost of labour since the Black Death had already made tillage unremunerative. The writers of the sixteenth century, and modern historians following them, have dwelt on the far-reaching consequences of the introduction of pasture farming—the superfluity of labourers, the amalgamation of farms, the increase of rents, and the dispossession of customary tenants. What we are here specially concerned with is the fact that the growth of the new manufacture helped to alleviate the evils it had itself caused, by giving employment to those whom the agricultural changes had deprived of work. Indeed, the wealthy graziers were themselves very commonly clothiers also, in the sixteenth century; the wool grown upon their own land they employed men and women of the neighbourhood to make into cloth, and then sold it to the London drapers or dealers. It must not be forgotten, moreover, that where peasant proprietorship and small farming did maintain their ground, this was largely due to the domestic industry which supplemented the profits of agriculture."²²

Internal economic cleavage in the woollen industry, aided by the accumulation of capital, produced the rival classes of merchants and artisans, dealers and producers. Drapers and clothiers emerged dealing in cloth and to a very considerable extent they controlled the lives and fortunes of the

²² Ashley, op. cit., Vol. I, Pt. II, pp. 222, 223.

craftsmen. The self-contained and relatively undifferentiated economic activities of the members of craft guilds, who were at once masters and men, traders and craftsmen, gave place to that inter-dependence which is characteristic of a division of labour and employment. The dealers or merchants were, moreover, themselves dependent on variations in foreign trade, which again fluctuated with inter-state relations.²³ Employment, prices, wages, everything which constitutes the material interests of a trading and manufacturing community, became involved in fiscal considerations, in national commercial rivalry and in international relations. We may note, too, how lines of economic relations and connections cut across national bonds whether material, as in the case of boundaries, or both material and spiritual, as in the case of race and religion. The development of the woollen trade in England was largely due to the immigration of alien, mainly Flemish, weavers; and that immigration, encouraged by English kings and parliaments for economic and fiscal purposes, was accelerated by the political and religious persecutions to which the immigrants were, in their own land, subjected. They did not escape the friction of trade jealousy in their new home. But the point we wish to make clear is the interplay of the forces which bind together the social fabric.

§7. The commercial revolution is, perhaps, the most amazing feature in modern history. Whether we can go so far as to say that "the economic factor is . . . the ruling factor in human history,"²⁴ is open to question. Religion was a primary factor in the colonising adventures of Spain. The political ideal of liberty, fraternity, and equality fired the armies of France, before dazzling visions of conquest under Napoleon obliterated it. Religious fervour or fanaticism carried the forces of Islam far into Europe. But the spread of western civilisation over the new world and the unexplored portions of the old, has been in the main a consequence of commercial enterprise. We have now to look at the part, the conspicuous and finally predominant part, which England played in it, from the point of view which is ours.

The commercial revolution meant two primary things,

²³ Ibid, pp. 231, 232.

²⁴ Kidd, Western Civilisation, p. 10.

one geographical and one political. Geographically it meant the development of sea routes west and south which were to supersede, or at any rate to rival and suppress, the difficult and dangerous land routes by which Europe had been connected with the East since very early times. Politically it meant the transfer of the centre of gravity of commerce from the great mediæval cities of Italy, Germany, and the Netherlands, to the nations on the western seaboard of Europe : Portugal and Spain, Holland, France, and England. The Mediterranean seaboard gave place to the Atlantic. First one and then the other of the nations named took the lead in commercial and colonial rivalry. The causes of their success, such as it was, and their failure, such as it was, are the subject of an illuminating chapter in Cunningham's "Western Civilisation."²⁵ The decay of the colonial prosperity of all but England seems in all cases to be reducible to one ultimate principle. Their commercial enterprise was not woven into the texture of their industrial and economic life. Portuguese and Spanish overseas empires became a strain which their home economy could not bear. The particularism of Dutch cities and their commercial circles left no national fabric to which their foreign stations could be permanently and securely attached. The centralisation of French nationality in the king and governing forces prevented the issue of that individual enterprise which is at the back of emigration and commercial expansion. The fibres were, in all cases, too weak or too taut to stand the tension which a world-wide commerce and empire produces.

How, then, did England succeed when the rest failed, relatively speaking? Let us hear what answer Cunningham gives. "The success of England," he writes, "becomes less astonishing when we see how closely it was connected with the political conditions and economic system which had determined the aims of the Government and the habits of the people. The English overtook and surpassed their competitors, not because they had any special genius for the work, still less because they were the mere favourites of fortune, but because they were true to themselves, and eager to learn from their neighbours. They were ready to

²⁵ Pp. 183-224.

be guided by the experience of others; to imitate their successes and to profit by the lessons of their failure. England secured an empire in the East, such as Albuquerque had desired for Portugal; while her commerce abroad reacted on her internal development so as to encourage the pursuit of agriculture as a profitable calling by resident gentry and to promote the manufacture of the products of the realm. This practical wisdom, combined with the soundness of the economic policy which was adopted, conspired to place this country in the front rank of European nations. The French had been the representative of mediæval Christendom in its struggle with Mohammedanism in the East; but in the eighteenth century England took the lead among the rising nationalities, and it is by means of the influence of English-speaking people that Western Civilisation has spread through the world in modern times.²⁶ This is a sober summary, and it leaves out of account the spirit of adventure, initiative and enterprise which has carried the individual Britisher across the seas into the furthermost parts of the earth. It leaves out of account also that strong national sentiment which has bound those individuals together by one of the strongest of ties. These factors must be added if we are to understand how Britain first, and English-speaking peoples as a whole next, discharged the task laid upon them mainly, perhaps, by economic evolution, of spreading western civilisation through most of the new and some of the old world which the tide had not reached.

The story of that spirit of adventure, enterprise and initiative which animated individual sailors, traders, and administrators during the seventeenth and eighteenth centuries, which was the primary cause of the expansion of England and which laid the foundations of the British Empire, is one of the brightest pages in history. They set out, it is true, in most cases to seek their own fortunes, and no doubt in that pursuit stopped short of little, and used means to gain their ends which, from the detached standpoint of twentieth century criticism, appear culpable. But on the whole the spirit of fair-play pervaded their enmities with foe and stranger; and certainly courage, endurance and

²⁶ Western Civilisation, p. 224.

tenacity of purpose were theirs. Through the exercise of those qualities in distant lands and distant seas, as often as not without the certainty of national backing, they accomplished the ever arduous task of pioneers, and it was through their individual enterprise that England awoke to find herself, almost in spite of herself, the nucleus of the greatest empire the world has seen. It was these qualities which stiffened explorers, merchant adventurers, and the pioneers of the empire in the East and the West.

§8. Of economic policy we may note two features. First, the East India Company illustrates at once commercial expansion in commission, so to say : that is, entrusted to the energy and initiative of private merchant adventurers ; and the principle of joint-stock trading. It was a form of monopoly which is comparable with that enjoyed, at an early epoch, by the guilds in the industrial sphere. Like all monopolies it aroused criticism and strenuous opposition, as every obstacle to economic freedom must. And, like the guilds, it was doomed for that very reason to ultimate abolition, which may be said to have been practically achieved when in 1813 the trade to India was formally thrown open.²⁷ "In old days, when *adventurers* could look for little effective support from the home Government, and were forced to provide for their own defence themselves, there was much excuse for conferring a trading monopoly on those who undertook the difficult position. The practice of chartering monopolist companies for distant trades with half-civilised peoples, did on the whole justify itself."²⁸ Apart from economic theory, it justified itself in its contribution, indirect though it may have been, to the development of the empire and to the industrial prosperity of the home land. The second feature is the victory of the mercantilists over the bullionists. The guiding principle of the latter was the accumulation and hoarding of bullion, that of the former was the using of it. The victory meant that Britain, in striking contrast to Portugal and Spain, reaped the fruits of the commercial revolution in the shape of an enormously expanded industrial life. The fluidity of capital and its ready employment in commercial enterprises laid the foundation of the empire's industrial greatness.

²⁷ Cunningham and McArthur, op. cit., p. 117.

²⁸ Ibid., p. 118.

The way economic development was seconded by king and parliament may be illustrated by reference to the Navigation Acts. One of their main objects was to stimulate the development of the mercantile marine, to be followed inevitably by the development of the navy as its guardian on the sea-ways of the world. One of their immediate effects was to sacrifice the interests of British consumers and also those of British and Colonial producers. Like all economic measures and developments, indeed like the process of evolution in every sphere, the Navigation Acts involved some immediate sacrifice. But the ultimate gain was immense. "Under their influence, and apparently in consequence of them, the mercantile marine of England developed from being merely insignificant till it attained the supremacy of the world. The acquisition and maintenance of power was the end at which the framers of the Navigation Acts aimed, and power they succeeded in securing. The marine of England decided the issue of the struggle between France and England in India and America. The mercantile marine of England rendered her superior to all the military strength of Napoleon; she found the sinews of war in a world-wide commerce, which extended over seas where none but the English flag was ever seen."²⁹ The mercantile marine, with the navy to guard her, has brought Britain triumphantly through the great contest of 1914-1919, when the whole fabric of her empire was threatened.

One more illustration of the relation of its economic activity to the whole life of society may be taken from the problem of its food supply. It is a problem which arises when that first, most fundamental and far-reaching effect of the operation of the principle of the division of labour and employment, namely, the separation of the population into two great classes, those who work on the land and those who work at trades and commerce, has become an accomplished fact. At first it is a local, almost a domestic, problem. With the growth of towns as a result of commercial and industrial expansion, with the growth of population, and in consequence of such an economic phenomenon as the agrarian revolution, it becomes a national problem. There are, of course, two ways of solving it. A country may be

²⁹ Cunningham and McArthur, *op. cit.*, p. 124.

self-sufficing and self-supporting in respect of food. Its natural resources such as the extent and fertility of its workable soil and a favourable climate, together with a sufficient population given over to agricultural pursuits, may give it independence in this respect, or it may have to depend wholly or in part on supplies from without its boundaries. The history of the food problem in England up to the close of the eighteenth century is the history of efforts after the first solution. Up to that time corn laws and regulative measures of the central authority aimed at making England self-supporting. After that period the importation of foreign corn began, paid for through the value of textile fabrics exported. From that time the people of England have been dependent for their bread in an ever-increasing measure on the success of her commerce and her industries. The Corn Law of 1815 had an aim entirely different from that of earlier enactments. That aim was, not the subsistence of the English people, but the subsistence of a section, the corn-growers, who were suffering from foreign competition. It was achieved by an artificial restriction securing English corn-growers a minimum price, eighty shillings per quarter, before importation was permitted. It helped the farmers but hit the labouring poor. Its inevitable repeal in 1846 was the assertion of the principle of free trade in the first necessity of life. "From 1793 onwards . . . England became permanently and regularly dependent on foreign countries for a supply of food."³⁰ The effect of free trade in food on the stability of the national fabric needs no emphasis. "A country which has its own resources of food and the materials for its own manufactures within itself, is liable to fewer risks and dangers than one which is dependent on outside supplies for the very necessities of existence."³⁰ The reality of this danger has been driven home with stern emphasis by the experiences of the world war.

§9. There are two general principles which these illustrations of the bearing of economic conditions on national life bring out. The first is the tendency of economic development towards freedom from artificial restrictions. In this respect it resembles the tendency characteristic of political

³⁰ Ibid, p. 89.

and religious development. If we consider what ought to be as well as what is, policy as well as history, morality as well as fact, the resemblance seems to be deeper. It is to be found in the limit within which, or perhaps it would be better to say the condition under which, freedom is desirable. This condition is that the freedom of one individual or one section must in no way infringe upon the freedom of any other individual or section; the right and the privilege must be the inalienable heritage of all. We have not thought it necessary to draw upon the history of the industrial revolution, and the industrial and commercial conditions which emerged as a consequence of it during the nineteenth century, because these developments are generally familiar and need no illustration. They do, however, throw vivid light on the principle we have now before us. There is no question that the *laisser-faire* policy which modern economic doctrine has favoured, has been marked by a crudescence of blind and selfish individualism. There is no doubt that in the race for wealth which economic freedom has brought in its train, there has been an exploitation of one section, represented by labour, by another, represented by capital. The division of employment has confined the worker within a groove which means a narrowing of interests and a greater dependence on the vagaries of demand. Unrestricted competition has tended to keep down wages. Perhaps most of all, the development of industrial and trading corporations has tended to eliminate the personal factor in the relations of employer and employed. And the retaliation of labour has frequently been marked by crude individualism; sometimes running to reckless destruction of capital. The remedy will require the wisest and most far-sighted statesmanship. It will only be found by the application of the principle that economic freedom must be limited by the condition that it does not infringe upon the right of every individual to what is picturesquely called a place in the sun, but which may be more precisely defined as the right to live decently and to develop the best that a man has in him. The principles of doctrinaire economists must be tempered by philosophic insight into human worth and dignity. It is within the province of wise government to impose such restrictions on both capital and labour. We cannot escape the working of

economic forces, for they are the forces which make and circulate the blood of the body politic. But we can recognise that there are other factors of human welfare.

Unbridled economic individualism cleaves national unity, causes class hatred, and may induce revolution and civil strife. In international relations it is pregnant with possibilities of war. Dr. Holland Rose finds in it one of the sources of Germany's aggressiveness which led to the war which has devastated a large part of Europe. "Bismarck's policy of protecting home industries (supplemented by that of von Bulow respecting agriculture) had very important results, far beyond the limits of commerce and industry. For there were two alternatives before Germany; either to continue in the path of Free Trade, which implies peaceful intercourse or to adopt a protective or narrowly national policy. Bismarck chose the latter, and Wilhelm accentuated the choice, his aim being to make the nation as far as possible a self-sufficing unit. The result was that Germany in forty years of peace piled up great stores of industrial energy which threatened to burst their bounds. . . . If Germany had persevered with the system of free exchange which makes the whole world an open market, the present cataclysm would probably have been averted. . . . The artisans of Germany . . . have been led astray from international ideals by a narrow commercialism . . . over-speculation and over-production probably prompted the mad plunge of August 1914 . . . commerce therefore joined hands with militarism."³¹ The inference seems to be that the League of Nations can justify itself as an economic tribunal.

§10. The second principle brings the evolution of the social world, in its economic aspect as well as in its political and national aspects, into the closest relation to the evolution of the moral order which we shall deal with in the third book, and to the evolution of nature which we have touched on in the first. It is the principle that progress to a higher order of things is inevitably accompanied by struggle and sacrifice. The central conception of the survival of the fittest in biological evolution implies the sacrifice of the unfit. Dr. Bosanquet has worked out the virile and stimulating concep-

³¹ Nationality in Modern History, pp. 196-198.

tion that in the evolution of a better moral order struggle and sacrifice are of the essence of the process.³² We have noted instances, in our illustrations of economic evolution, of death for the laggards and life for the economically fit. And it does seem that any attempt to remove or even unduly to limit healthy rivalry and evolutionary competition, for example by the nationalisation of wealth and industries, is an attempt in the face of both history and penetrating thought. This man-made world can be regulated by man, but the regulations must be long-sighted. We want to preserve the strong virile individuality of economic units if there is to be healthy evolution towards economic perfection. It is only in a struggle that a man can prove and assert his worth. A hierarchy of intrinsic ability is the economic gaol and it will only emerge from free competition, assuaged by the fullest recognition of human worth and dignity, and made sane and just by the most liberal educational opportunities. Mr. Kidd's conception of projected efficiency has much in common with Dr. Bosanquet's conception of struggle and sacrifice as the essence of moral evolution. We may well conclude this section by quoting him: "The very essence of the process of order represented in our western world must be that there is within it some organic principle effecting the continued subordination and sacrifice, not only of individuals and of parties but of whole generations and of entire periods of time to the ends of a larger process of life."³³ And again: "The gradual organisation and direction through the State . . . of the activities of industry and production, moving slowly not to any fixed condition of ordered ease, but towards an era of such free and efficient conflict of all natural forces as has never been in the world before, is no dream of excited imaginations. Divested of all cruder proposals of confiscation and of the regimentation of society, divorced from the threats and not unnatural exaggerations of classes wronged and oppressed in the past, it is no more than a simple and sober reality of the future, which must, by necessity inherent in the evolutionary process, ultimately prevail amongst the winning peoples."³⁴

³² It is the basic conception in his "Value and Destiny of the Individual."

³³ *Western Civilisation*, pp. 77, 78.

³⁴ *Ibid.*, p. 469.

There is another constituent of the social world, different in nature from the four we have briefly considered. It is language and literature. We may regard it as the medium of this man-made structure, enshrining his achievements and aspirations in what is his almost unique vehicle. It will be the subject of a separate chapter.

CHAPTER IV

ADJUSTMENT TO THE SECOND WORLD

§1. Now that we have some idea of what that second social world is to which the individual must be adjusted, whether well or ill, we may turn to the process itself. And we may begin by noting that it is constant and unending. Not only is it of the essence of family life and school life, but of the essence also of every phase of the life of manhood and age. A man may be on a cliff-head or an Alpine peak alone as he thinks with nature; or he may be alone with himself at a moral crisis in his life; but neither the moral nor the natural order can obliterate the social order even for a moment. The thoughts that come, the ends that clash, have a reference beyond himself, if only for the reason that they are fitted into a social medium, language, and without it would remain inarticulate. The medium is not his alone but is common property. And as he passes from one phase of experience to another he is passing from one form of adjustment to the social order or civilisation to another. We may note, too, that this process of adjustment is a double-edged one. He modifies this second environment while it modifies him. The environment is at any moment just what this double-edged process has made it. It is perpetually being re-created by the countless acts and impulses of individual men in their reaction upon the complex of civilisation which evolution has brought to bear upon them. There is no end to schooling in this vital sense. "For the historian nothing is, but everything is becoming."¹

Nor are there special social forces and activities through which schooling exclusively operates. This side of education, adjustment to the second world, is as wide as that world is wide. Forces which are directly educational are often distinguished from those which work indirectly. The distinc-

¹ Committee of Seven, History in Schools, p. 47.

tion, though convenient, is artificial. Ultimately all social forces and agencies have double-edged adjustment as their inevitable effect, for better or worse. Churches, parliaments, provincial councils, school boards, the press, the theatre, chambers of mines and commerce, trade unions, have their educational responsibilities equally with education departments, universities, colleges, and schools. They have at any rate one educational function in common which is to promote adjustment. They are the representatives and agents for civilisation of political, economic, aesthetic and religious forces and aspirations. They are spheres of educational demonstration and application, and should be linked by unity of purpose to class-room and laboratory. There is identity, existent amidst difference of course, in all the adjustments whereby the fabric of the second world, the world of man as a social being, is for ever being woven. All the world's a school and all the men and women contributory scholars. All articles of association, from vestry rules of procedure to the constitution of the League of Nations, should be scrutinised from the point of view of their educational possibilities. They are all instruments of adjustment linking individuals to the great social structure from which their material and spiritual sustenance is drawn, and to whose stability and betterment they must contribute through alert insight combined with ready service. So far as the second world goes we can fill in Bergson's real duration with the functioning of every power which gives unity and continuity to the complex of social life.

§2. We must turn, however, to the specific task of the schools. The question is how they can facilitate this supremely important business of social adjustment. The answer is, in a word, by revealing the social world and by stimulating the impulse to social activity. For the social world has first to be discovered to both young and old. It is like the air, all-enveloping, a source and sustainer of life, yet not only invisible but unappreciated by many at most times and by all during frequent intervals. Indeed the relation of the individual to the social whole which envelops him and penetrates him is comparable with the relation of mind and body in respect of organic unity, though we must always be careful to remember that it is a relation between spiritual

terms. It is a unity within the miracle of experience, for that is what real adjustment means. And we may put the problem of the schools in this way. It is to extricate the objective element, the social world, in this side of experience, to unfold it to view, and to extend it as far back as possible so that its continuity through history is realised, and as far outward as possible until its continuity through existing humanity is felt as a reality. Success will be in varying degrees, according to the duration and liberality of schooling. For all, should be unfolded far enough backwards to secure some appreciation of the evolution of its present form, and far enough outwards for some appreciation of its national and international contacts. But there will be no real success unless there is living connection within experience between the individual nucleus, whether we regard it as a pure or an empirical self, and the ramifications of society backwards and outwards. There must be living connection along these two dimensions if adjustment is to mean intelligent appreciation and active co-operation, insight and service.

This simultaneous projection of the social world and connection of it by organic bonds with the individual nucleus is a vital point in the theory of education, and we shall do well to dwell on it a little longer. The unity and continuity of history is an extremely important fact and conception, and we may call it either according as our point of view is objective or subjective. We have, indeed, ventured to assert that it gives the second world pre-eminence in stability over the first, the world of nature, which is, by contrast, the world of birth and death; and that in this second world we have treasured up the acquired characteristics which training develops, and which, according to the now generally-accepted theory, cannot be transmitted by heredity from individual to individual. It is possible, however, to appreciate that unity and continuity as an objective fact, to realise, for example, the unbroken line by which the British constitution, as it exists to-day, is connected with the remote past, or how the economic conditions of the twentieth century have their roots in the eleventh; and yet to miss the educational import of real adjustment. For that means not merely the continuity and unity of the various phenomena of different sides of history with themselves and of the sides themselves within the

whole, but their living relation to the individual within his experience. If this has not been achieved adjustment does not exist. "Cape Verde not only juts out into the Atlantic, but stands forth as a promontory in human history," the Committee of Seven observed.² The geographical fact is a reality for me, because I have several times seen the Cape from the deck of a steamer. The historical truth was not on the same plane of reality until the pregnant observation of the Committee had, as we say, brought it home. It is the business of education first to project the social world and then bring it home. The first aim may be achieved and the second missed.

There is something like the same incompleteness of theory in all discussion of the educational value of history, whether it be instructional value or cultural value. It is really not a question of value at all, but of life. "Since education is not a means of living, but is identical with the operation of living a life which is fruitful and inherently significant, the only ultimate value which can be set up is just the process of living itself."³ We don't talk in a detached way about the value of air; we see that we get as much of it pure as we can. It is a question of healthy or unhealthy life, or, indeed, of death. So with the social environment. It is an element in normal healthy spiritual life and the question is not an academic one as to value but a practical one, whether that side of the spiritual life is to be stunted or vigorous; whether, indeed, we are in this respect to be spiritually alive or dead. In fact we can consider the second world precisely as we considered the first, as polarised to the self, and the educational aim as the making polarisation first a reality of experience, and secondly a reality of the widest possible circumference. "When so much has been said of the necessity of studying the natural sciences, in order that one may come to some realisation of the physical and vital world about him, *and may know himself better as he knows his surroundings more thoroughly . . .* it seems strange indeed that the same method of argument has not been used on behalf of historical work."⁴ The italics are

² History in Schools, p. 31.

³ Dewey, Democracy and Education, p. 281.

⁴ History in Schools, p. 16.

ours because we think they contain the crux of the argument. And we should go further than the Committee of Seven and say not only that he may know himself but that he may live his life more fully. Children make historical scenes real by play-acting. Men ought to weave the past into the present by real action.

§3. Next we must note that it is the life of society as a whole which is to be projected or made objective in experience. Of course we must in practice attend to one thing at a time; and attention will naturally seize the promontories or landmarks of history and social life. A king, a general, a parliamentary leader, parliament itself, an act of parliament, a voyage of discovery—some person, thing, or event, will be in focus, or it may be a larger issue like the French Revolution, the agrarian revolution, or the industrial revolution. Indeed it will frequently be necessary, as we shall presently see, to consider one side or aspect of the life of a people, in abstraction from the whole. History is, of necessity, falling into separate departments such as ecclesiastical, constitutional and economic. All these abstractions and specialisations, necessary as they are in the economy of things, are, however, to be regarded as such. Each person, event, or side of life, should be constantly referred to the whole background, apart from which it has no meaning, and of which it is but an expression. This principle should be the main guide to the order of treatment and the selection of topics. But there is far more than order and selection in question. Its relevance to the development of the people as a whole, as a social organism at once political, economic, national and human, must be the criterion of the value of any particular historical detail or course. A biography, an epoch, an aspect of development are not merely to be treated in relation to their circumstances; they are part of the life of the whole, within it, expressing it and reacting upon it. The difference between one man and another, one event and another, or one side of life and another, as factors in social evolution, is only one of degree. Of course there are these differences of degree. The contribution, both positive and negative, to that evolution made by such a character as Napoleon is hardly comparable with that of one of his grenadiers. On the other hand, the cumulative and permanent effect of the interchange

of ideas between all the privates of his army was probably far greater than his own. The conflagration of the French Revolution, as a flame of real emancipation, soon died down. Trades unions have probably done far more to fan and feed it. The spectacular has influenced the making of history books more than the making of history. The unobtrusive elements of society and the great cumulative effect of the pulsing of its life as a whole, have received scant, or at any rate altogether inadequate, notice. It is to the evolution of the whole that events on the surface of the stream should be referred.

These two principles, then, to bring the social world home to the student, and to bring it home to him as a whole to which great and small contribute, must pervade the study and teaching of history. And there are two others on the same plane of importance. They are the two alluded to at the end of the preceding chapter as underlying economic development in particular; but all sides of social evolution exhibit them. One—here the third—we may call the price and the postulate of progress. It is the sacrifice of individuals and of interests which have had their day. The martyrs in the Roman amphitheatre, amongst others, paid the price of the evolution of Christianity; the evolution of nationality meant the decay of some of the strength and vitality of local life; the industrial revolution almost destroyed home industries; the latest reform of the British Constitution meant an attenuation of the duties and responsibilities of the second chamber; during the great peace celebrations of 1919 it was the invisible host of the gallant dead which was uppermost in the minds of most of us. Progress inevitably leaves loss and sometimes death in its tracks. The brighter picture is its complement, the gain, the betterment towards which on the whole, as we must believe, evolution ever moves. The other—here the fourth—principle is what we mean by the evolution of freedom. Politically it means true democracy; economically it means an application to industry of the Kantian conception of man as an end and not a means; nationally and internationally it means the honourable rivalry and interplay of sound traditions and aspirations. That is the goal. And through all the mist of strife, revolution, and war, we surely can discern some measure of progress towards

it along the line of history. May it not be that in all these respects, we have the ideal pervasive of and operative in the real?

We have, then, these four general principles: social evolution as (a) a living thing projected and revealed within the experience of the individual, as (b) carried forward by the contributions of all and as affecting the life and destiny of all, as (c) involving struggle and sacrifice, and as (d) moving towards the ideal of freedom. The first states the nature of that adjustment of the individual to the second world, so far as it is cognitive and æsthetic; adjustment of will, passing over into zealous participation, we shall consider at the end of this chapter. The second states the scope and sweep of the evolutionary process and the third and fourth together its nature. Again, the first we may take to represent the spirit in which history is to be interpreted and the other three as the general criteria of interpretation. The four have this in common that they may all be used to test the real educative value of effort at interpretation. We have now to glance at each of those four elements or strands of the social fabric which we examined in the preceding chapters from the same point of view, namely, that of interpretation. They differ from the four general and all-pervading principles we have just referred to in this, that one or more, but not necessarily all, will illuminate the particular event or topic to be interpreted.

§4. It will be convenient to proceed, at this point, by way of illustration. Suppose the topic is the repeal of the Corn Laws. Economic development will obviously be the first principle of interpretation. The need of cheap and abundant food offers a convenient point of departure. One way of securing food is to make the country self-supporting. Here the second principle, that of national stability and development would be relevant. The other way is by purchase of food supplies from other countries. The effect of this policy is to encourage industries so as to acquire the means of purchase. The rival claims of the agricultural and the manufacturing sections of society would emerge and the need for their reconciliation and adjustment by legislative enactment. This might elucidate society as an organism for whose healthy life central regulation by a representative par-

liament is necessary. The repeal itself would illustrate movement towards economic freedom. The food problem during the late war and the present general demand for governmental limitation of profits in the interests of society as a whole, might afford instructive parallels.

The emigration of the Pilgrim Fathers may be chosen to illustrate the working of the social impulse towards religious freedom. The first temporary halting-place in Holland is more than an incident. It shows first religion bursting the bonds of nationality, and then the imperative call of blood and language in response to which the dangers and hardships of the unexplored West were faced. New England and Virginia would be contrasted as, respectively, negative and positive products of the spirit of English nationality as it at that time flamed: religious intolerance being the mother of the former and adventure of the latter. The revolution of 1688 illustrates the impulse to political freedom, together with that to religious freedom, dominating the national aversion to an alien ruler. Further examples are unnecessary. The educator who feels the currents—political, economic, national and religious—sometimes congruent, sometimes mutually repellent, which contribute to the onward flow of social evolution, will have no difficulty in extricating them from historical events, and in explaining the latter to his pupils by reference to them.

§5. The problem of arranging the sequence of a school history course is ultimately a question of the interpretation of the evolution of the life of a community. The solution will vary with the community. It will be different, for example, for Transvaal schools and for English schools. There are three factors to be considered, the period of time to be covered, the selection of topics, and the order of treatment. They must all be considered in relation to that adjustment of the individual to the social world which we have taken to be the end and aim of the study of history. So far as the period, the range to be comprehended, goes, the solution is clear. We must go far enough back to make it possible to follow the working of those factors in the evolutionary process which are still operative. We say working rather than genesis and working. It would be better, of course, if we could get back to absolute origins. But leaving out of

account the question of what is practicable, there remains the problem where the actual genesis of modern states is to be fixed. Are we to put it, for most school purposes at all events, at that part of the middle ages when, under the joint organising agency of the church and the feudal system, order was evolved out of the chaos in which the disruption of the Roman Empire had left Europe? Historical research is bridging the gap of the Dark Ages but it is not clear that there is any marked continuity between Roman and mediæval civilisation, if we omit the outstanding exceptions of law and literature. We may put it this way. While it is eminently desirable to base a course of modern history on the story of Greece and Rome, it is not perhaps necessary for the purposes of intelligent adjustment to the social world as it exists to-day to go further back than the time when in the later middle ages the states and nationalities of modern Europe began to take shape. That the Greek and Roman civilisations offer a fruitful field of parallels and analogies which throw a flood of illumination, sometimes by similarity, oftener by contrast, on modern history, is, of course, a truism.⁵ That Greek and Roman and, indeed, oriental history must be the foundation of the study of modern history for the fortunate ones who can prosecute the subject at the university stage, is also beyond argument. The individual we have to consider, however, is the future average citizen, and the problem is how far back he should be able to see in order to make his citizenship active and intelligent. And the answer we suggest is the one given above.

Mr. Barnett says that "any hard and fast distinction that has yet been made between ancient and modern history seems to have little value except as a means of marking off the histories of political societies that still live from those that have become extinct or, as has happened generally, have been merged in others. History is one."⁶ It is just to this living continuity that adjustment should be made. The truth is that, for school purposes, exactly where you begin is of less importance than where and how you end. The end should

⁵ See the article on Ancient History by the late Professor Withers in *Teaching and Organisation*, edited by Barnett.

⁶ *Common Sense in Education and Teaching*, p. 262. The title of this book is, from one point of view, a misnomer. In its penetrative insight and broad sweep its sense is the very opposite of what is common.

be the present and it should be felt as the actuality of the past and the potentiality of the future. The Bergsonian idea of real duration is cardinal for history. And a test of a good starting-point might well be its reality as a phase in the duration which ends with the present. It is clear that, speaking generally, the older the pupil and the more advanced the course the further back real origins may be traced. And the further the better of course.

The selection of topics really means emphasis of some and leaving others in the background, unattended to. It is a question of perspective rather than selection and omission. The point is not unimportant, inasmuch as the unity, inter-dependence, and inter-relation of all parts and sides of social life are apt to be overlooked. The departmental treatment of history, e.g., constitutional, dynastic, economic, is subject to the same drawback. The unity of history as a record, is, of course, the consequence of the unity of social evolution, but the whole is apt to fade from view when one side or aspect is in focus. The point has been referred to above and may be left. The question of treatment is perhaps one of method and thus falls outside the scope of this work. This much may be said. Treatment like selection is a question of emphasis. The doctrine of interest may require the treatment at one stage to be largely biographical and picturesque, having for its immediate object outstanding critical events rather than the steady current of national life out of which they emerge and into which they recede. It may require that stories, biographies, historical novels and literature, shall be the media of interpretation. But this is only a stage and a preliminary and preparatory one. True it serves a very necessary purpose, that of stimulating imagination; for it is largely through the instrumentality of the penetrative insight which a lively imagination mediates, that the social world is revealed. The part which observation plays in the exploration of the first world is paralleled by that of imaginative insight in the unfolding of the second. It is but a stage, however, the "thing" stage. And we have to get beyond it to that higher plane, the plane of organic relations, at which the unity and continuity of national and social life is revealed. That revelation comes, if at all, when events and developments, whatever their nature—military, religious, economic,

political, or what not—are viewed in their relation to the onward movement of the life of the social organism. The unity of social life is in this sense the same as that of individual life whose critical happenings we must interpret as products of the past and portents for the future, if we are to realise their full meaning.

§6. It may be said that the organic plane in history is one which school pupils cannot rise to, that the attempt to deal with historical events in their organic relations would make the subject unattractive and even distasteful, and that, in any case, the majority of pupils leave school before this aspect of history can be developed. To take the last objection first, we may point to the general tendency to lengthen school life and to remove the artificial boundary which has for so long and with such futile effects broken the natural and organic continuity between primary and secondary education. And even if this were not so, it is surely sound theory to lay down principles which apply in the normal case; that is, in the case of the pupil who will proceed beyond the foundations to the structure for which the foundations exist. It is essential that we should look at education as a whole and not attempt to truncate and round off a scheme artificially, to put barriers and limits where none exist in the nature of things. We must go to work on the assumption that even if, unfortunately, some, even the majority, will not reach the goal which reason sets up while they remain at school, they will develop the impulse to use their hours of leisure to carry on the work the schools have begun. There is no more fertile source of error than the common idea of the limitation of education to school, and school years. We have called the barrier between primary and secondary work artificial. We ought not to put up a second between education in school and education out of it. Continuation work will be largely a result of the voluntary impulse the schools develop, whatever element of compulsion may be introduced. We shall be on firmer ground if we start from the assumption that all are going on, in school or out of it, at any rate to the stage which the completion of the secondary course denotes; and a good few to the end of life.

And there is no question that pupils of fifteen and over seize suggestions of the organic relation of isolated events

and developments to the whole current of social progress with avidity. The "thing" stage is not the attractive stage when reason is developing. The tendency is to under-rate the grip of early adolescence. Moreover, it is to be remembered that isolated events, like "things," are just those which are abstract. Concreteness increases in proportion as links in the world of reality increase. And events gain in constraining power with every increase in concreteness. Of course the teacher will exercise his common sense. He will not push his attempts to establish links of connection to the point when remoteness discourages efforts to grasp them. But the experience of thoughtful schoolmasters will, it may be confidently affirmed, corroborate the conviction that average pupils will reach out with avidity and zest towards suggestive interpretations which link events on to one or other of the strands of the social fabric which we have endeavoured to indicate. The curve of a cricket-ball is not less interesting when it is envisaged as the resultant of the force of projection, the pull of gravity, and atmospheric friction. The glory of the defeat of the Armada is not dimmed when it is seen to be the triumph of religious tolerance and the first great contribution of the mercantile marine to England's supremacy of the seas. One has seen the Suez Canal become richer in significance for boys and girls of fourteen as its importance as a sea-way between East and West has been revealed to them, and every teacher could multiply instances. Napoleon does not lose constraining power when he is shown to be first the instrument then the exploiter of democracy. Even Luther is not less attractive, but more, when he stands out as the father of Protestant churches. Cobden is not a less striking historic figure in the rôle of dispenser of a cheap breakfast. Whatever objection to the organic aspect of historic events and developments there may be, loss of constraining power over early adolescence is not one of them.

§7. We are here brought quite naturally to the consideration of what is known as civics at an earlier and politics at a later school stage. The great and all-inclusive aim of the teaching of history is, not merely the revelation of social progress, but participation, whole-hearted and sincere, in it. That aim, it may be assumed, is behind the championship of these subjects. But keen protagonists are often blind; the

very strength of their convictions is a danger. If our discussion points to anything it is to the futility of any attempt to isolate civics and politics from organic history, from the treatment of men, events, and developments in their relation to the current of social life; at all events until that organic process has, through the study of history, become a living reality. We are here face to face with a danger of the same kind as the one we have just been considering. Concrete-ness, we argued, is increased and enriched when events are viewed in their relation to social life in its many and varied ramifications. It is when they are considered apart from these ramifications that we are at the abstract and unhistorical stage. And if we take civics and political relationships out of their concrete and living context and attempt to expound their dry bones we are courting failure if our object is the sentiment of citizenship.

Public opinion insists that the schools ought to develop, foster, and enrich a warm sentiment glowing around the rights and duties of citizenship. And the opinion is beyond question sound. A sentiment, however, has a nucleus of intelligent insight and it is questionable whether the method of developing that nucleus, commonly advocated, is sound. That method usually is a course of lessons on the machinery of government and public administration considered by itself and thus in abstraction from the concrete process of history from which it has emerged. No doubt historical illustrations are used. But looking at the question from the point of view of the creation of real and living interest it would seem that the cart often goes before the horse. It would seem that, at all events for younger pupils, who have little or no sense of history as the record of civilisation, of social progress, lessons on the machinery of government are not likely to find real points of attachment in consciousness. The rational course would seem to be to seek them in political events and struggles which have some concrete and perhaps dramatic elements. In a word we should accumulate details incidentally in the course of history lessons and gradually build them up into a body of more or less systematic doctrine which has its basis in the living facts of history. In this way the theory of the king, lords, and commons as estates of the realm, the growth of parliamentary government, taxation, enfranchise-

ment and the like topics, would emerge gradually and the attempt to give them some measure of coherence would be the highly important, and then possibly attractive, task of the highest forms of the secondary school. There is not much civic nurture in an account to, say, fourteen-year-olds of the passage of a bill through parliament. It can only have real meaning and significance for those who can grasp, as a consequence of familiarity with details of social evolution, what parliament stands for, what such an instrument of parliamentary government as an act implies, and what safeguards for its full consideration and discussion have, by the stern teaching of experience, been proved to be necessary. Perhaps older boys and girls might be brought to realise the significance of parliamentary procedure by reproducing it actually in the consideration of an instrument of their own making, say the rules of a sports club or a school library. A school discussion on parliamentary lines of some such instrument of government of their own miniature society would, at all events, have the element of concreteness and reality which most early lessons in civics inevitably lack.

§8. So far we have looked at the cognitive side of the adjustment sought. But the sentiment of patriotism, like every other, is a complex in which the momentum of feeling and will is behind cognition. It is a complex which, indeed, involves and absorbs the whole individuality. It is certain that we shall not get that complete absorption, even momentarily, if the machinery of government, abstracted from the reality of governing, is what we put before pupils. When insight awakens pride and the resulting momentum carries the boy or girl forward to imaginary participation, we may be satisfied with the measure of adjustment achieved. And pride will awake when the story of struggle and sacrifice for political liberty is dramatically told. There is another source of error, it would seem. After all, government is only the skeleton of the social fabric, while its economic activity is its life blood, nationality is its spirit, and humanity its soul. Do we not err when we limit our conception of civic rights and duties to those which cluster about order and government? Does not true citizenship include also economic efficiency, the obligations of nationality, and the call of humanity? In a word, should not our course in civics

be focussed on service rather than, as usually, on government? After all, even government is ultimately service, as President Wilson has so frequently and with such simple eloquence reminded the world during these last most critical years. We should do better to direct the sentiments of our future citizens to the opportunities and the obligations of civic service rather than to the machinery of government. "Knowledge of civics," writes Kerschensteiner, "is not the most pressing need of our schools. The first and most pressing need is the exercise of civic virtues."⁷

For such exercise a school affords an appropriate field. We may note, indeed, that the opportunity afforded for striving after this ideal of solidarity is one of the strongest reasons for organising educational machinery in the form of schools and classes. Education by governess or tutor is likely just to miss this impulse to solidarity. Also it gives us a very good reason for keeping pupils of about the same age and stage of development in the same class or the same school. The boy or girl much above or below the average age—though the younger is less likely to take harm—is unhappy because he or she is outside the current of common life. For the same all-sufficient reason the best organisation of schools is into junior, middle and secondary.

It is, indeed, a question of vital importance how the school, or to take a handier unit, the form or class, can reflect and prepare the way for solidarity and community of life, and how each member can be made to participate. The physical life of a school presents many opportunities. A school should be a clean community and a vigorous community. The sense of hygienic solidarity can be developed. There can be a community standard of physical sanity calling for contributory adherence and support in a dozen ways which need not be mentioned. A school can be a real preparation for personal contribution, say, to the sanitary conditions of urban life. Habits which may diminish, if they cannot prevent epidemics, may be developed in the school community. In cadet camps, school excursions, picnics, and holiday camps, there are all the conditions for developing a community standard of physical sanity and calling for individual

⁷ Education for Citizenship, translated by Pressland, p. 97.

contributions to its maintenance and improvement. On the physical side a school can be a real training ground for civic virtues. And the same thing is true of it on the cognitive side. There is room for a much larger measure of combination in class-room and school activity. Kerschensteiner emphasises the great opportunity for combined work which the workshop and the school garden present; and rightly. But intellectual activities offer it equally readily. The habit of contributing to the solution of a problem or the elucidation of a knotty point should be developed. Group work in laboratories or domestic science rooms can be undertaken. A school play is civic training. Discussions and conferences by pupils need not be an unpractical dream. They afford social training encouraging the individual to give something of himself to the whole. Why not a form or a class examination paper? It would probably be more searching, as it easily might often be more appropriate, than the master's. Individual knowledge is a miser's treasure until it becomes transmuted into a leaven for social enlightenment. We can encourage healthy competition and transmute it into whole hearted co-operation. With the æsthetic and moral life of a school in this same connection of solidarity it will be more appropriate to deal in the third book.⁸

Kerschensteiner has an apposite reference to solidarity of purpose among craftsmen which we may quote here. He writes: "Centuries ago there was a time in Germany when the masters, not only of one trade but of many trades, felt the educative influences of work in common. It was the age in which Romanesque and Early Gothic cathedrals were built, in which work-people and masters combined in the plan of the whole, in which almost all the trades of a town united to construct those monumental edifices that have gained the undivided admiration of our time by the finished unity of their construction. If we could but understand the eloquent silence of these cathedrals our churches and our palaces would once more exert a gentle, harmonious, and exalting influence and the civic edifices—communes, districts, counties and States—would benefit by the study."⁹

To sum up, civics or politics, as a school subject, must

⁸ See Book III, Chap. II, §§4, 5, and Chap. III, §6.

⁹ Op. cit., pp. 101, 102.

be the unfolding of the meaning of membership of society, national first and then international. And the unfolding must be done as the story of the nations proceeds. The hobby of Greek citizens was politics. Our task is to find what we own and what we owe. Every thrill which the history of social achievement brings will keep the fire burning. There is danger of its extinction by the slag of custom and sectionalism. But the fire will break through and flare up in times of crisis. Privilege will beget obligation. The British empire is a fine nursery for citizenship because of its age and, above all, its reputation for granting the priceless privilege of freedom. There will be no harm in attempting to weave the details of civics into a coherent body of doctrine if the attempt is not made until some acquaintance with the story of their evolution has been gained. Only it is to be remembered that the mere teaching of civics and politics will no more arouse the true civic spirit than direct moral instruction will produce morality. To secure it we must build up habits of social service. The school must be a social microcosm to whose welfare every member is called upon to contribute according to his capacity. Out of the combination of spirited instruction and spirited participation that adjustment which is true patriotism will emerge.

§9. There is another aspect of the study of history on which many educationists lay great stress, namely, the weighing of evidence. It is very questionable whether this incursion into what is really the province of the historian can profitably be made by school pupils. The study of original documents or other historical data may, of course, be attempted, within obviously narrow limits, in order that mature pupils may realise how history comes to be written. That is only an application of the method of discovery. It is hardly necessary to add that, so far as such data are used in order to give reality to history teaching, a second sound principle of pedagogy is being applied. Our point, however, is that these appropriate principles of discovery and reality are not to be thought of as subserving the development of the power of historical perspective and judgment. These are the prerogatives of the ripe scholar. It is, of course, desirable to encourage older pupils to read critically, and to compare the statements even of authorities, so as to develop the power and

the habit of forming independent judgments. Such a power and such a habit are a necessary equipment if adjustment to the social order is to be one of more or less stable equilibrium. We want our pupils to leave school able to detect narrow partizanship, froth, and clap-trap. And it may be said that this is after all weighing evidence. It is, however, quite another thing from the detached impartial attitude of the historian justified by the ripe and highly specialised knowledge of the scholar. The difference may ultimately be one of degree, but the degree of difference is so great as to be equivalent to a difference of attitude and method. Honest adjustment to and an impulse to participate in civic life, rather than a detached and critical attitude towards it, should be the single aim of history in the schools.

CHAPTER V

VOCATIONAL ADJUSTMENT

§1. We propose to deal in this chapter with the relation of education to vocational efficiency. It is a vexed question. There are many for whom the very name vocational education is anathema. Yet when we get down to bed-rock, the adjective is tautologous. All education is ultimately vocational. Even the stoutest protagonist of purely disciplinary and formal training must admit a teleological aspect. Some final purpose shapes his efforts. It may be the glamour of literature, science or art, some aspect of culture. It may be some aspect of life on its active side,—administration, politics or the church which, without his knowing it, is all the while giving form and substance to his work. There must be some ideal which gives the breath of life to the dry bones of routine. And if he ever takes the trouble to search for it he will find it in citizenship of some sort. For even the world of literature and art is not detached. It is, indeed, co-extensive with the world of humanity. Being neither a wild beast nor a god his pupil will not live alone. Citizenship of some sort is his destiny, the call to some common sphere. There will always be a cloud of witnesses and, indeed, a host of fellow-workers. Education is always the avenue to a sphere of common action be the output material or spiritual.

We may quote Dr. Adams in connection with this point. He writes: "It is interesting to watch how the specific element obtrudes itself in the writings of men who think that they are dealing with education in the most general way. The fact is we cannot think of an education *in vacuo*. We have found that an environment is an essential element in education, and an abstract environment is practically a contradiction in terms. It is true that we can imagine an environment quite different from that actually existing, but even in our manipulation of existing environment we are naturally limited to the real elements of which it is composed,

however ingenious we may be in manipulating these elements into new combinations. The theorist sets up before him an ideal of pure cultural education, something that will fit a man to fill any post to which he may be called. The object is not to turn out a lawyer, a mechanic, a priest, but a man. Even Rousseau speaks of his *Emile* as a man. But when we look into the writings of the theorists, it will be found that each of them has in view some more or less definite type of man, and that their theories are directed towards the moulding of the educands on this model. Thus it comes about that pure cultural education is much rarer even in theory than is generally supposed."¹ We assert that in intelligent practice it is non-existent.

The conception of economic efficiency seems to narrow the topic down. It would be more correct to say that it attenuates it. There is the same stretch, the same extension, but not the same depth. We mean by economic efficiency, efficiency of participation in work, in that side of the life of the social organism which maintains its material existence; contribution to the sustenance and circulation of its life-blood and at the same time, contribution to the circulation and sustenance of the individual's own. His vocation we can safely say is co-extensive with his economic activity although it is deeper and fuller. If he is economically inefficient he can no longer fulfil his vocation, although he may be economically efficient and yet fall short of vocational efficiency. You may have an individual without much soul; but he cannot be conceived without a body.

It seems incontrovertible that education must stand in some relation to vocational efficiency, though there may be difference of opinion whether it is to be immediate or remote, at short or long range, as Dr. Adams would say.² The history of educational practice and theory on the whole supports this view.³ Primitive practice, unburdened with theory, was, we may safely assume, directed immediately to adjustment, physical and social. The penalty for non-adjustment was death. The first, and in some respects the greatest, attempt at theory, that of Plato in the "Republic," was

¹ Evolution of Educational Theory, pp. 176, 177.

² E.g., op. cit., p. 179.

³ Ibid, Chapter VI may be consulted for details.

rigidly vocational. The slaves were to be trained for industry, warrior-citizens for the maintenance and guardianship of the welfare of the state, philosopher-citizens for the high office of intellectual surveillance over it. Each class had its function in the polity and was to be educated for its efficient discharge. Roman civilisation, on the whole, reflects the same principle of specific classes for specific functions. Christianity, in theory and to some extent in practice, cut across the rigid caste distinctions of feudalism, but, speaking generally, the doctrine of equality before God was not powerful enough to remove or even materially to affect economic and social barriers and to achieve equality before men. Crafts and guilds in the urban communities of the middle ages, and agricultural organisation in rural communities, worked, as we have seen, in the direction of class and educational exclusiveness.

When humanism became pedantry, when naturalism became individual emancipation from social obligations, as in the theory of Rousseau, when idealism had transferred synthetic function from the phenomenal world to man, as in the theory of Kant, a tendency to transfer the centre of gravity of education from man in his relation to his environment to man thought of in detachment, as in the theory of formal training, emerged. Our view is that this theory was artificial and that, in reality and in practice, its adherents did not, and could not, give it complete allegiance. They had some vocation, some citizenship, at once behind their practice and in front of, in organic teleological relation to, their theory. They were vocationalists at bottom. The English public schools have produced magnificent governors and administrators, just because of the liberal sweep of their teleological constraint. They have sent their alumni to carry justice, honour, and freedom into the vocation of empire, just because they have extricated these qualities from the vocation of humanity and have focussed their daily routine on the development of them. They have been, and are, vocational schools in the highest sense of that much-abused term.

Now the pendulum is swinging back. There is a real danger of a return to the theory and practice of a narrow vocationalism. The wonderful progress of science which the last century and a half has seen, has brought materialism in

its train. With what result? Surely that which Kant pronounced against, namely, the tendency to use men as means, not to treat them as ends. The political revolution, the rise of democracy, has not been, as yet, strong enough to counteract the effect on the individual of the commercial and industrial revolution. Let us quote Professor Dewey : "At the present juncture," he says, "there is a movement on behalf of something called vocational training which, if carried into effect, would harden these ideas into a form adapted to the existing industrial régime. This movement would continue the traditional liberal or cultural education for the few economically able to enjoy it, and would give to the masses a narrow technical trade education for specialised callings."⁴ He goes on to point out how a more liberal view of vocational training "would give those who engage in industrial callings desire and ability to share in social control, and ability to become masters of their industrial fate. . . . With the representatives of the more privileged portion of the community, it would increase sympathy for labour, create a disposition of mind which can discover the culturing elements in useful activity, and increase a sense of social responsibility."⁴

In dealing with vocational efficiency as a necessary aim of education we have, then, to find a mean between two extremes : the view of those who would keep schooling free of the influence of any specific purpose or vocation, though they cannot, from the nature of the case, ever be completely successful ; and the view of those who would subordinate schooling to a narrow and largely economic conception of vocational ends. It seems to us that this is the main problem of adjustment to the social order. Civic efficiency does not seem to present the same difficulty as a criterion of adjustment. Not from our standpoint, at all events, which is that every *civitas* contains within itself the potentiality of the moral order, the third world which we have yet to consider. The problem in this connection is, therefore, to bring, through education, potentiality to actuality. "Just as it is the function of the family to foster the State-idea and to prepare its members for State-citizenship, so it is the function of the State to promote

⁴ Democracy and Education, pp. 373, 374.

the 'humanity-idea' of world-citizenship.²⁵ Citizenship lies ahead, whatever we may think or do, and the problem is to secure that it is citizenship of no mean city. With the vocational criterion the case is somewhat different. The question here is whether the criterion itself exercises a cramping or a liberalising influence on the work of the schools.

§2. Clearly the first essential is to know what vocation comprehends, what we are actually called to. The first response which instinct and intelligence agree in giving is life itself in all its fulness. Our vocation is to live, and to live means, subjectively, to have full play for all our powers, and, objectively, to have free access to all that we need to enable our powers to function. That at least is what it means before we introduce two vital limiting considerations. One is the conception of moral values, the conception, that is, of a lower and a higher self; the second is the existence of others who have the same rights as ourselves. Both imply inhibition, negation. Vocation as life, must be interpreted to mean not living on that side which morality would denounce, and not living for ourselves alone. So we first get determination by negation. When we turn to positive content, economic efficiency emerges at once as a fundamental constituent. It is at all events our vocation to be self-supporting and, *ipso facto*, to assist in maintaining the economic stability of the social fabric. There is a growing tendency to topsy-turvydom in regard to this simple principle. It is common to hear and read arguments based on the assumption that the state should support its members; whereas the obvious truth lies with the converse of the proposition. This particular ramification of the fallacy of hypostasis goes very far. The state is thought of as a self-existent entity within which refuge from economic storm and stress may be found. The ultimate fact that state resources are the resources of its individuals is overlooked or neglected. The state treasury is thought of as mysteriously replenishing itself like the widow's cruise. It is essential that all who have to do with education should keep clear of such foggy thinking. And the more so because the test of economic efficiency is likely to be applied far more relentlessly in the future. The incompetent and the idle are likely

²⁵ Kerschensteiner, Education for Citizenship, p. 19.

to meet with less of easy tolerance than heretofore. Education, then, must, in the first place, be vocational to this extent at least that it faces towards, and not away from, economic efficiency.

But making a living does not exhaust life, although, on the other hand, it is poor practical philosophy to set working and leisure hours over against each other. That is another phase of the old atomistic, mechanical fallacy. Good work is often the truest leisure, just as poor leisure is, assuredly, often the hardest work. It is, indeed, the fallacy which lurks behind the arguments for a pure culture theory of education, though it may not often come out into the open. Intellectual and æsthetic delight it would seem is to be sought in the activities which fall outside the muddy current of work. It is in the evening after work hours, and during week-ends and holidays, that we really live. This is not merely foolish, it is highly dangerous. Much work is grinding and soul-destroying, but the task is to improve it and its conditions. To keep all the illumination and fairy lights for the evening and week-ends in the vain hope that they will somehow make it easier to bear with the gloom of the working hours, is to court disaster. The result will be an increasing distaste for work. Effort should be concentrated on the improvement of work and working conditions. Only a small abnormal minority dislike work. The normal man is unhappy without it. The struggle for existence is for the majority the solution of existence, always provided that it is not demoralising. This can be avoided if the conditions of the work and the work itself constantly give scope for a measure of moral and intellectual achievement. We shall deal with this point presently. It is mentioned here in order to emphasise the vital importance of finding a more or less complete vocation in the work itself or at any rate of avoiding the evasive sentimentality of the theory that our true vocation lies outside our job. Without going so far as to say that the nature of the work doesn't matter, we do assert that there are few tasks that cannot be made interesting if the conditions are what they ought to be, and if education has given a sound preparation or continues to give a running commentary. The menial and sordid tasks which are necessary for life and health and which yet cannot satisfy this condition, should,

to the greatest extent possible, be carried out by mechanical, not human, agency.

Having noted the danger of any unnatural separation of work and interest, we can safely widen the conception of vocation so as to let it take in all practicable activities which are sane, which attract, and which promote cognitive, æsthetic or moral expansion. The limitation set by the attractive and the practicable prevents the description from being so wide as to be useless. For one man a concert, for another his garden, for a third his library, for a fourth all three and more, will be vocational equally with the day's work. Here we may note two different aspects of the continuity between school and life. The relation of work to schooling is teleological, that of the interests of leisure to schooling is, partly at least, consequential. Schooling will be shaped in some degree at all events by the future life-work but hobbies will to some extent be the effect of schooling. In other words schooling, if we look upon it as effect and cause, as shaping and being shaped, should prepare for life as a whole, and be the avenue to both work and leisure. This is all somewhat trite, but another point may well be noted. It is that the vocational pull outside working hours should be real. So many people drift by inertia or imitation into the bar, billiard room, or bioscope, and the cake of custom is fixed before the unfortunate being has had a chance to find a vocation for his leisure.

§3. There is one point about which we can safely be dogmatic. It is that the more lines of connection there are between the activities of the school and the vocation which is to follow, the more attractive they will be, especially when adolescence has been reached. There is no question that with the sudden and rapid extension of intellectual power and æsthetic sensibility which is characteristic of that period, there is normally a reaching out towards life as a serious matter, and a strong impulse towards real participation in it. It is indicated by the desire for older companions, by the pride boys and girls take in anything they can do which is of real assistance to their parents, and by the avidity with which they throw themselves into anything which belongs to the sphere of the grown-ups. There is no doubt whatever that this impulse is what makes most children ready to leave

school early and, among the poorer classes, ready to throw their weight into the scale and decide the parent wavering between "quick returns of profit" in the shape of a few pounds a month, which he sorely needs, and the "far gain" of a craft or a profession for his boy or girl. And among the children of what are called the upper classes it is not certain that the same impulse does not account for the loafing tendency often noticeable in the older pupils of a secondary school, who have not been lucky enough to be called upon for prefects' duties or other special tasks which satisfy their desire for real participation and real responsibility in life. There is no doubt that one way to make primary pupils keen to go on with schooling and secondary pupils keen to make the most of it, is to let them feel that it is a real preparation for a vocation, at longer or shorter range. And parents as a whole are with their children in this matter. Indeed we may say that the advocates of a purely formal and disciplinary training are mainly the teachers themselves. It is so easy and even natural for them to fall into the attitude and habit of looking upon the school as an end in itself. It is so easy for them to forget that the school exists for the pupils and not the pupils for the school, and both for the life, the vocation, which is to come after. The realisation of the ideal of a minimum of ten years' schooling for all, depends as much on a real continuity between school and life as on economic factors. The way to get pupils and parents unreservedly for it, is to let them feel what Browning's inspiring grammarian vindicated :

" Oh ! if we draw a circle premature,
Heedless of far gain,
Greedy for quick returns of profit, sure,
Bad is our bargain ! "

§4. After these preliminaries, we must turn to the practical problem of giving schooling a vocational bent, or perhaps we had better say, giving it vocational implication. It is to a considerable extent a question of content, of subject-matter and things done, of knowledge and skill actually acquired; but by no means entirely. We may look at the matter from the formal point of view and it is, of course, true that all discipline, whether resulting from merely cognitive exercise, or from cognition combined with construction, is

indirectly vocational. This is, however, not the ground taken up by those who defend formal disciplinary schooling. They take their stand on the alleged pre-eminence for formal training of certain subjects, e.g., classics or mathematics. That point is arguable; but it is beyond argument that all activity is positively or negatively vocational. There is at any rate this much continuity between school and life that it is with the accumulated momentum of the powers, habits, tastes and volitional force developed in the former that the pupil will embark on life. There is thus, unquestionably, a formal aspect of vocational training, and there is clearly a disciplinary resultant of all school work whatever its nature. We might leave the point with the general injunction that the schoolmaster should apply a running vocational criterion to the efforts of his pupils, a criterion as to the resulting accumulation of power. A detail or two may, however, be suggested. One is the vocational value of every bit of real work done in schools. It hardly needs saying, and yet the trick of "ca' canny" is so easy to learn in a class of thirty. Another is the need for initiative and autonomy. The habit of leaning is as easy to acquire as the habit of scamping. The point is the more important, because, with the division of labour and the minutiae of the modern organisation of administration and production, whether mental or practical, things tend to run automatically and the sense of direct responsibility diminishes. And there is no more deadening tendency. Then there is the power of weaving details into a coherent whole and bringing them to a focus, whether it be a logical whole or a whole of craftsmanship. This is what adds artistic, æsthetic stimulus to the routine of a vocation. These, and others of narrower scope, an alert schoolmaster will readily weave into what we have called a running vocational criterion. Indeed the protagonists of formal training would be in a better position if they shifted their line of defence from special subjects to entirely subjective ground. It is to be noted that we have limited formal vocational values to the development of habits and ideals, in accordance, as we shall presently see, with the findings of experimental enquiry in this sphere.

The fundamental formal principle on which the prosecution of any task or occupation with lively and sustained in-

terest depends, is that it shall offer a field of activity within which the individuality can develop. And the development must affect all three sides of mind. There must be increasing command over the difficulties it presents, whether they be cognitive or cognitive and manipulative, enhanced pleasure in its more effective and easier accomplishment, and a growing sense of moral satisfaction in work well done. The first may, and usually will, bring the second and third in its train; the second almost necessarily. The third may need the stimulus of moral satisfaction gained in another field. Thus the mechanic may come to feel moral pride in week-day tasks in consequence of a glow carried over from something well done on Sunday, for example, taking a class in a Sunday-school. So also aesthetic satisfaction may be transferable and cumulative: a model garden may mean a model shop-bench or a model office-table. This brings out one point we want to make, namely, the organic relation of directly and indirectly vocational work, due, of course, to the fact that it is one and the same individual to whom both fields are polarised. The point we are immediately concerned with, however, is that in regard to the vocational task, development, progress, the expansion of the potentialities of the worker, is an essential condition of sustained interest. If that can be assured effect will be given in the economic sphere to the Kantian principle of humanity as a kingdom of ends.

The psychologists⁶ lay stress on the systematic unity and the systematic complexity of the process, if conation, as the active and volitional orientation of the whole man to a topic or task, is to be sustained. Of this double-edged process, the first is, in vocational work, usually secured by stern necessity. The problem of humane organisation and, as we shall presently see, of education, is to secure the second. Arrest of interest and with it of conation, followed by distaste and tedium—not to put it stronger—is almost always the result of an undeveloping task, mere repetition against which the hand or eye or intellect is powerless to find an outlet for its native impulse to progress and betterment, is what is deadening and destroying. Fortunately there are compensations. One is to be found in the creative activity which is normally native in man. In consequence of this truly divine provision, the

⁶ Cf. Stout, *Analytic Psychology*, Vol. I, p. 183, ff and *passim*.

most unskilled work is always being transformed into something a bit better. One is tempted even to put the same fact objectively and say that apparently the most intractable matter—say coal being loaded from a truck into a cart—will respond to skill in manipulation; the materialist is of course as free to deny this as the idealist to assert it. A second compensation is to be found in the truth which adherents of opposing philosophic schools would agree about, the truth, namely, that there is no such thing as actual repetition; although the weary controller of an automatic machine or a press reader might find it somewhat thin. We are on firmer ground with the compensating tendency of habit, although this may seem to be a modification of the principle we started out from. Fortunately the fact is, whatever the psychological truth may be, that there is a very real measure of relief in getting back to the known confines of the habitual. We may perhaps instance the engine driver in the mechanical sphere and the editor in the intellectual as men whose vocational tasks afford fortunate combinations of repetition and novelty as factors of conation. The teacher ought to be our best example.

§5. We have to consider, then, how by choosing, organising, and manipulating the subject-matter on which, while at school, the youth is nurtured, in the first place we can bring it into real relation with future tasks so that it will sprout, so to say, and thus meet the needs of the individual for cognitive æsthetic and moral growth; and, in the second place, how we can develop interest in non-vocational occupations which may be reflected on to the vocational tasks themselves, and thus give them still more budding points. Ultimately therefore the two aims are one: adjustment which will enrich the whole life of the man, while it promotes economic and social efficiency. The essential thing is to keep the unity of life in focus. As Dewey points out in such a convincing manner educational theory, following tradition rather than leading the way while taking account of it, has tended to separate studies much in the same way as an earlier psychology separated faculties; introducing a factitious set of mutually independent values which reflect the artificial divisions of society, and thus substituting a mechanical conception of diverse aims for the organic unity of life. In this

way cultural and vocational studies, training for work and training for leisure, even training itself and nurture itself, have been set in unnatural and unreal opposition. "The situation in education represents the divisions and separations which obtain in social life. The variety of interests which should mark any rich and balanced experience have been torn asunder and deposited in separate institutions with diverse and independent purposes and methods. . . . Unconsciously our course of studies and our theories of the educational values of studies reflect this division of interests. The point at issue in a theory of educational value is then the unity or integrity of experience."⁷ We may say, indeed, that educational reform and social reform depend fundamentally on the application of a sound doctrine of the universal to three spheres. The social organism is a universal and each section and member of it fulfils its function within it by furthering its welfare as a whole. The individual is a universal whose welfare every part of him must sustain by healthy function. And the school is a derived universal within which activities should exist, not in a hierarchy of educational values⁸ but in organic unity. The various types of school and educational agency in any state are not ultimately better or worse, *inter se*, because of the content of instruction or kind of training they give. They may be better or worse, of course, from the point of view of efficiency, but not from the point of view of the nature of the function they discharge provided it is a function essential to the welfare of the social organism. So with school life and the individual pupil. The criterion we want is whether that life sustains and enriches the life of the individual as an organic whole or—what is really the same criterion—whether it promotes that adjustment to three worlds in which life consists.

§6. Having suggested what vocational efficiency may be taken to mean and how education on its formal side may prepare the way for it, we pass naturally to the consideration of the content of schooling in relation to the same end. The order of our discussion will be, first, types of school, secondly, the correlation of more directly vocational subjects and activi-

⁷ Democracy and Education, pp. 290, 291.

⁸ Ibid p. 281, "We cannot establish a hierarchy of values among studies."

ties in the one school with those that at all events seem to be further removed from the practical calls of life, and lastly, the manipulation of these subjects and activities. That order has the advantage of gradually narrowing the issue down and thus bringing our discussion to a focus. From what has been said it will be clear that we do not regard the evolution of different types of school as the production of a series at one end of which the purely vocational institution stands and at the other the purely non-vocational. Their actual genesis may have been, perhaps to some extent unconsciously, after this fashion.\ Sound educational theory must maintain the principle of continuity between school and life after school, and accept the inference that all schooling should be vocational, and that the vocational criterion, liberally conceived, should be applied to all educative processes without exception. How, then, are different types of school to be justified? The answer we offer is by differences in vocational function. The division of labour, or, better perhaps, of occupations, is an economic fact and an economic necessity. It is perhaps necessary to note that its parallel is not social stratification, an artificial and chance product, but classification according to ability, native or acquired. It is surely unnecessary, in these days, to insist that for the educational ladder we should substitute the educational highway, broad and unencumbered by any obstacle to real potentiality. Two difficulties are real. The first is to find a satisfactory criterion for a division of pupils according to specific ability. Professor Adams is sanguine about a reliable psychological test, and we do seem to be justified in looking forward to it as a result of analytic, genetic and experimental work in this fascinating science. Meanwhile the evolution of the fittest goes on, but by controlling the environment, that is by providing a wide and varied sphere of educational opportunity, something can be done to minimise the waste and destruction which seems to be inherent in the process. That brings us to our second difficulty. It is that resultant of the forces of selfishness, inertia, and the desire for "quick returns of profit" which on the one hand shortens schooling and on the other narrows it unduly, with the inevitable result that potentiality is thwarted or diverted into unsuitable channels.

At what is called the primary stage, but which ought to

be universally accepted as and named the preparatory stage—and the artificial barrier between primary and secondary schools, a stumbling block alike to pupils and teachers, is being rapidly breached by economic necessity and more liberal thinking—the vocational focus should be a long way ahead, almost out of sight, though both instruction and discipline should be convergent on it. It is curious how vocational stress has been laid by tradition and what seems to us perverse theory, precisely at the wrong end of the school continuum. The primary curriculum has been evolved, mainly at all events, with a distinctly utilitarian bias, while the secondary curriculum has been made to face away from considerations of utility. That may safely be ventured as a broad generalisation, though there are many signs of an awakening. It is justifiable comment on educational theory and practice, as a whole, to say that the nearer the school continuum has approached the threshold of life, the less have its various processes been shaped by a consideration of the problems of life. And the inverse is true of the primary school at the other end; for it would hardly be urged that its pupils cross the threshold of life when they leave school. They are in the great majority of cases the victims of an educational gap between school and life never bridged save by the stern schooling of premature vocational experience. The first course for all should be preparatory to a further course and its function should be the free and liberal development of potentiality. And if it be asked, as consistent theory must ask, potentiality for what? Our answer would be for adjustment—to be mediated more specifically at the later stage, though begun at the first—to the three worlds of nature, man and morality. Even at the preparatory stage that should be the focus of theory and the criterion of practice. Intelligently applied it will save us from idiosyncrasies and extremes which follow on the heels of either a narrow vocationalism or a theory of discipline left in the air. Obsession of the three R's, premature civics, manual-training or what not, is the fate of those who look either too narrowly or without any focus at life, and assume the economic inevitability of a short school course. Healthy physical activity, training of hand, eye, ear, and the organs of speech, using the power of acquisition and retentivity and

the impulse to activity so as to make as rapid progress as possible in the ready use, but not in order to strive after any factitious mastery, of the instrumental arts of writing, reading, measuring, and calculating, above all discipline in work and orderliness through the operation of organised routine—these are the essential constituents of schooling at the preparatory stage.

And it is of vital importance, as we think, to cut it short when its purpose has been served and the pupil is ready, hungry for the formative cultural process of adjustment. Also it would seem that all the weight of argument points to a transfer from the preparatory school to a quite separate higher institution. Transition to such work within the preparatory school itself will not satisfy the sudden hunger of adolescence. It is a critical phase of development which almost goes to disprove the universality of the truth that *natura non facit saltus*. Childhood is left behind and adolescence emerges with striking rapidity. The astonishing expansion of potentialities calls for a new environment affording freer play for intellectual activity, æsthetic responsiveness, and moral responsibility. School organisation should provide an appropriate field for this many-sided blossoming of individuality and transplanting would seem to be the only adequate means. The butterfly stage following on that of the pupa, as we might almost call it, demands the freer air and clearer light of the secondary school. A continuation and liberalisation of the preparatory course, a "top" built on to the same institution, is wholly inadequate to meet the case. The expanding individuality calls for the ceremony and ritual of transfer. Promotion must be from one stage, childhood, now ended, to another, adolescence, now beginning. The dust of the first stage must be shaken off and there must be formal and ceremonial entry into the new. The higher grade elementary school is a hybrid product and its comparative failure might have been anticipated from its makeshift constitution. It is as essential that adolescence should have its own atmosphere and institution as that maturity should. There is as little justification for carrying the preparatory school on into the secondary area as for carrying the secondary school on into the university area.

That is the conclusion it seems impossible to escape if

we look at the question from the preparatory side of the school continuum, from the point of view, that is, of the needs of the pupil who has completed it. It is confirmed if we look at it from the secondary side, from the point of view of the pupil on its threshold. There is no reason for delaying his entry a moment later than is necessary. There is, of course, no support to be found either in sound theory or intelligent practice for scamped and hurried preparation; but it may safely be said that danger lies rather in keeping the pupil back, in underestimating his ability to go ahead and in failing to catch the tide of impulse. The demand of the secondary schoolmaster to get his pupils younger is, we think, sounder than the desire of the preparatory schoolmaster to keep them longer, either with a view to a more thorough drill in instrumental arts or from a natural but short-sighted ambition to encroach on work which he can at best only begin. We are entirely in agreement with the view that there is no break between preparatory and secondary courses. The essential continuity of schooling we take to be a fundamental postulate of education. There is, however, an essential transition of purpose and atmosphere resting on the transition from childhood to youth. And our view is that the danger of arresting the transition is far greater than that of anticipating it. If time is to be lost at all it had better be lost in the station waiting for the train than after it has gone. Assuming that preparatory schooling begins at the sixth year we should advocate transfer to the secondary school after the completion of the eleventh year in the normal case; that is after the completion of what is widely known as the Standard V course. And we should advocate also that in the organisation of a system of public education the same programme of exercises and studies should be followed in all preparatory schools, on educational grounds, and also to secure equality of opportunity for all to exercise on unimpeded choice of a secondary avenue into life.

§7. We have now to discuss the question of different types of secondary school. Before doing so it is desirable to deal with the argument against specialisation which the existence of such types may be said to imply. Our consideration of the purposes of the preparatory school and its limits, brief as it has been, should have established the point

that it ought to be quite free from any directly vocational bias. All-round healthy potentiality should be its aim and purpose. The very fact that we contemplate different types of secondary school implies, however, a deliberate look forward to the life, the vocation which is to follow, a deliberate intention to let the variety of secondary schools reflect and prepare the way for a variety of vocations. And the objection will be raised that this is specialisation and it is premature; that it will be sounder to carry forward the potentiality principle, untrammelled by vocational considerations; and that vocational efficiency is more likely to be secured if secondary work is organised without any regard to it. So far as this view claims to have psychological justification, it may be said at once that experimental investigation appears to have refuted the claim. The theory of transferability of power developed in one medium to another which has few points of identity with the first, appears to be exploded. "The balance of expert opinion is now so solidly against the general dogma of formal training that as an educational force it must be regarded as moribund. It cannot be denied that within certain narrow limits, determined by the distribution of common elements, there is transference of power from the study of one subject to the study of another. But the transference is so small as to make it practically negligible for educational purposes. . . . While the general doctrine of formal training is almost universally rejected, there remains a wide belief that there is something in experience that gives colour to the popular notions on the subject. This something may in the last resort be reduced to the power the educator has of building up general concepts of method in the minds of his pupils. . . . In short the gains of formal training are to be found in ideals rather than habits."⁹ That sums up expert opinion on formal training. And the related point, which is often confused with it, that special subjects, e.g., Latin, develop intellectual potentiality better than others, ceases to be of importance if the theory of transference is rejected. Indeed we have already rejected the conception of schools and school subjects as a hierarchy of values.¹⁰ Our criterion is whether they provide adjustment

⁹ Adams, *op. cit.*, pp. 222, 223. See also Bagley, *The Educative Process*, Chaps. XIII and XIV.

¹⁰ See p. 248.

to three worlds. So that the objection that different types of secondary school imply premature specialisation has no weight with us because the assumption from which it is launched, that formal training, specially through the medium of certain subjects said to ensure it most effectively, is the best preparation for life, is not borne out by exact investigation. Moreover we do not accept the implication of narrow and illiberal specialisation. On the contrary we maintain that each type of secondary school should be pervaded by the most liberal conception of vocational training.

We can, therefore, light-heartedly face the question of the vocational organisation of secondary schools. Three general types seem to be called for. The first will be needed in order to prepare recruits for those institutions of social life which subserve the welfare of men in their mutual relationships. We may call these institutions the humanities and take them to include the church, letters, law, economics and politics. The second will be needed to prepare men for that branch of social service which is concerned with the adaptation of nature and natural forces to the needs, amenities and amelioration of men. We may call this the nature group and take it to include medicine, engineering, agriculture and locomotion. The third will be needed to prepare recruits whose social services will lie in the direction of the actual production and distribution of the things necessary for the life of man, liberally but reasonably interpreted. We may call this the group of crafts and commerce. This classification is not suggested as one which is exhaustive or final. It is, however, put forward as something more than a convenient basis for exposition. It is claimed that it reflects the main lines of differentiation of vocation. Another explanatory observation is necessary. It might well be objected that the first two social functions here distinguished, what we have described as the humanities and the nature group, are appropriate as suggestions for differentiation within the university rather than the school sphere. Our reply would be, first, that we are not proposing anything so foolish as professional or technological studies in the schools, but merely that we should look ahead and organise their curricula in the light of future vocational adjustment. And, secondly, we should argue for the continuity of education forward as

well as backward. Adult education, whether through universities or other agencies, is a problem which has to be faced ; and, in any case, the schools will have fulfilled an imperative need if they are so conducted, that pupils leave them with the impulse, power and determination to carry schooling on into life of their own initiative if organisation is lacking. Continuation work is not the necessary complement of the preparatory school only. Life means continuous and progressive adjustment and in the schools we must begin to take account of the fact.

Before we look at each of the three types of secondary school to which these differences of social function point we may profitably note what they must have in common ; for that they should have much in common follows from the fact that the adjustment they are to promote is to the world which is man's common inheritance. Each individual and each group of individuals has its specific function, but these differences exist against a common background, so to say, a general identity of purpose. So that it follows that secondary schools, while reflecting these differences of function must also reflect something of the general identity of purpose in the midst of which they exist. This identity should extend to three subjects at least and also to the whole routine and atmosphere of the school as factors of social and moral training. To take the three subjects first, language and literature must find a place in every school for reasons which will be discussed in the following chapter, but of which one may be noted here as all-sufficient. "It is the instrument of society."¹¹ It is the medium of our second world. We may add that it is the embodiment of our third, the moral order or continuum still to be discussed ; and an indispensable instrument for the exploration of the first, the world of nature. Language and literature, then, is a common subject for the sole and sufficient reason that adjustment to the three worlds is impossible without it. The second is science, including some mathematics, to mediate adjustment to the first world. It is clearly necessary for the second of the social functions which we have called the nature group, and for the third, crafts and commerce. It is no less necessary for the humani-

¹¹ Foster Watson, *Vives on Education*, Introduction, p. xxxii.

ties. Adjustment to human relationships implies also adjustment to the physical order in which alone they are possible. Some appreciation of the laws of physical interaction and the laws of development is essential for every man. The third subject is history in some form, with civic relationships and civic service as outlined in the preceding chapter. These three departments of study and active participation, language and literature, science, history and civic or social relationships, must find a place in every secondary school which professes to be orientated towards life. In addition every school should be a training ground, through its routine and atmosphere, for social and moral progress.

§8. These are the features which all secondary schools will have in common if they are to promote adjustment, and this is what we mean by their being vocational. We may now look broadly and generally at differences, taking the humanistic type, the nature type, and the crafts and commerce type in order. The development of the curriculum of the first, the humanistic type, will be clearly marked out. Looking forward to the human relationships in the fabric of society it will naturally turn first to literature, as the depository of the achievements and ideals of men and as consequently the natural avenue of approach to the sources of guidance and inspiration which the past and the present have to offer. To the study of the mother tongue "the instrument of society" will be added the study of one, at least, of the classical languages for its humanistic content and its artistic form. These literary sources will shed illumination on the human problems which are to constitute the vocation of its pupils, at least by way of historic parallels, analogies or contrasts, if not also by way of historic continuity. For such vocations as letters, law, politics, and the church, these classical studies will also be in a measure directly vocational, since much of the substance of what it is necessary that their students should know, is only accessible through them.¹² To the mother tongue and the classics the study of at least one living foreign language and literature will be added. For in these days of close international relations it is evidently essential that these

¹² Cf. Barnett, *Common Sense in Education and Teaching*, p. 206. "The social reformer, therefore, the politician, the poet, the historian, the lawyer, the clergyman, none of these, to be masters of their tools, can afford to neglect the classics."

schools should offer access to the ethos and practical life of at least one contemporary nation through its language and literature. And it is impossible to over-estimate the value of literature, native, classical, and modern, for æsthetic development and the rational use of leisure hours, and consequently, as we hold, for the indirect expansion and intensification of the interests of vocational studies. Moreover, these literary studies and the history course will each enhance the value and interest of the other. At least three languages, then, history with such geography as is necessary to give it its natural setting, and science with ancillary mathematics, might well furnish the substance of the curriculum of the type of secondary school which looks forward to what we have called the humanities as the vocational sphere of its pupils. We should add workshops which, with the science laboratories, would promote adjustment to the first world as the sphere of mechanical forces; and choral music which would promote adjustment to the second as the Great Society of corporate impulses and common aspirations.

The nature type will find its focus in the first world. In the extension of science and in the development of most of the other subjects in their relation to science, the differentia of this type will be found. In classifying social functions in order to justify types of secondary school we were careful, in distinguishing the nature group, to note that those whose vocation it is to control the natural forces of the first world do so for the ultimate welfare of the members of the second. In this sense the first world is a means and the second an end, while both find their ultimate meaning and significance in their relation to the third. At the school stage, however, the adaptation of natural forces to the needs and the amelioration of men will be a secondary and incidental matter. At a later stage, that of the university, technical, or professional school, that side of it will become the substantive one. It must be preceded, however, by the investigation, in and for themselves, of natural phenomena and laws. In our view that investigation should include organic as well as inorganic science. We enumerated medicine, engineering, agriculture and locomotion as branches of science with special social implications. From a narrowly vocational point of view it may be thought that while the first and third of these

spheres call for studies in organic as well as inorganic science, for the second and fourth it may well be limited to the latter. No doubt the engineer can get along without general biology. It is not in the same relation to his vocation as the inorganic sciences are to, say, the doctor's. But it is just the narrow mechanical conception of the relation of studies to vocations which is to be avoided. It is as perverse as that negation of relation which the adherents of the theory of formal discipline urge. We should maintain that for the pupil proposing to take up law or letters schooling without classical studies would be inadequate. And even more strongly that for the pupil selecting some application of science for his vocation, schooling which omitted all investigation of organic life would be altogether inadequate. Inasmuch as the classics are the product of a remote epoch while biological science is the department of most modern development, Greek or Latin might, in our view, be dropped with less loss to literary equipment, than biology to scientific equipment.¹³ It follows also that the literary studies in a secondary school looking forward to the nature group of vocations would lie mainly in the field of modern languages because they record the results of scientific investigation. To the mother tongue we should add French and German at least. Mathematics as ancillary to scientific investigation would also be pushed further. Laboratory work is, of course, essential and well-equipped workshops with facilities for technical drawing are a necessary adjunct. Choral singing is as desirable here as in schools looking forward to humanistic social service. History might well take on a more economic character.

§9. The schools which have crafts and commerce as their objective require even more careful organisation, if only because the temptation to narrower, more intensive work is reinforced by short-sighted opinion and by the championship of those who would exploit education for their own selfish ends. It is necessary to be on the look out against both the honest friend and the pirate of vocationalism. On account of the importunity of both friends and enemies the *via media* is more difficult to hold to. We may put it in this way that,

¹³ Cf. E. Ray Lancaster, *The Kingdom of Man*, Chapter I, for a powerful statement of the claims of science, and especially biological science.

while in the two types just considered the problem is to keep life in view, in this third type it is to prevent it from dominating schooling. Bearing this precaution in mind we may consider a trades school for boys as typical of this crafts and commerce group. What is sound theory for a trades school applies, *mutatis mutandis*, to a commercial school and a domestic science school for girls. It seems clear that the centre of gravity of the curriculum must lie in the trade subjects and occupations. This is consistent with the principle observed in the suggestions regarding the humanistic and the nature types. In the former it lay, we suggested, in literature, and in the latter in science. In the schools we are now considering it must lie in craft training. That is to say, it must lie in the workshops. In bench-work, and later in machine-work, the focus must be found. But just as according to recent psychological theory the focus of consciousness gets all its constraining power from its marginal implications, so in these trades schools the workshops must find their meaning and illumination in the attached class-rooms. This point is vital. The boy will be found on the side of the short-sighted friend and the long-sighted enemy we have referred to. He will be content to potter about in the workshops all day long. The intrinsic attraction of file, vice, chisel, and lathe is overwhelming for him, itching as he is to participate in the activities of the craft. But this is just the point at which the long-sighted educationist must step in. He knows that, while the novelty of tools and machines has constraint enough now, monotony lurks ahead unless intelligence can create a margin or fringe of scientific interest which will be a fund to draw upon when novelty has gone. So the boy must be carried off, willy-nilly, from the shop to the classroom and the laboratory. He must be given not only mechanical skill but intellectual insight. This might be argued from the point of view of his material interests. If he is to escape from the shop to the drawing-office, or the designing-room, if he is to look forward to becoming a shop-foreman or a works-manager all the mechanical skill in the world will avail him nothing unless there is all round about it, suffusing it with meaning and possibility, the light which inventiveness and organising power, developed by scientific study, alone can originate. But even for the average work-

man, the possibility of his craft being a self-satisfying vocation, a sphere of self-realisation, depends on his being able to realise the rationale of mechanical processes and, within his capabilities, to reach out towards possibilities of modification and improvement. So we must get the young workman from the bench to the desk whether he likes it or not.

These crafts schools call for more attention than the two first-named groups. The humanistic schools and the nature schools will take care of themselves. Having a long history behind them they have been the focus of educational thought and controversy, while crafts schools are only now coming in for serious attention. It may almost be said that the stability of society depends on the success which can be achieved in liberalising crafts and making them furnish a vocation within which the craftsman can find room for the expansion of his individuality. We may quote from the Interim Report of the Committee on Adult Education to clinch this point. After reviewing the progress of the evolution of the existing industrial system and the effect that evolution has had in calling for mechanical and monotonous labour, in eliminating the personal factor from the relations of employer and employee, and in lowering the aesthetic standard of craftsmanship, the report goes on to say : "The ideal industrial system would, in a large measure, obliterate the sharp distinction now made between 'technical' and 'humane' education, for it would offer means of self-expression and development which under the existing industrial organisation are too often lacking, and would recognise the educational value of manual processes and the influence of soundly manufactured commodities upon public taste and social values. If such a system seems remote, it is the more important to encourage through education the elevation of public taste, the growth of a new pride in workmanship, and the rise of a new spirit of service in industry. Adult education and, indeed, good citizenship depend in no small degree, therefore, upon a new orientation of our industrial outlook and activities. . . . Education is to be measured essentially in terms of intellectual accomplishment, power of aesthetic appreciation and moral character, and these have little or no opportunity for realisation except through a harmonious environment."¹⁴

These words sound a grave warning which all responsible for education must take heed of. "It is a condition and not a theory that confronts us."¹⁵ The object to be attained clearly is to rescue crafts from the grinding monotony which industrial conditions have made, or are tending to make, of them. And the first step is to convert monotony into interest by flooding the craft itself to the fullest extent possible with the light that science can throw upon it. The second step is to give the craftsman social and humanistic interests which will avail him when the interest of the craft fails him, as it at best frequently must. Let us hear what the Committee from whose report we have just quoted has to say on this point. "From a careful consideration of the information we have received, we have arrived at the conclusion that the effects of monotonous work depend largely upon the strength of the intellectual interests of the worker and upon the nature of the worker's temperament. Something also depends on the pace of working, as where the process is performed with great rapidity the effects of monotony are intensified. Young workers employed on monotonous processes easily succumb to the deadening influences of their daily work. And if they continue upon work of this character, the evil results pointed out above appear almost inevitable. On the other hand, workpeople who already possess wide interests strongly developed when they enter upon monotonous work, may, if the hours be not excessive, not only survive the crushing effects of their labour, but may find counterbalancing advantages in the opportunity for reflection."¹⁶

These counter-balancing advantages it is clearly the imperative duty of the crafts school to provide. The three subjects, literature, science and history must find a place in these schools if anywhere. So important is this question of the curriculum of the crafts or trades school that no apology for a lengthy quotation from an article by one whose vocation it is to organise them, is needed. He is Mr. W. J. Horne, a colleague of the writer's, charged with the organisation of technical education in Transvaal. He says: "In the trades school the pupil should be actually engaged in the

¹⁵ Quoted by Bagley, *The Educative Process*, p. 60.

¹⁶ *Ibid.*, p. 14.

workshop, work-room, field or garden where the simpler stages of productive work are begun, but under the conditions of actual production. The phase of the training should be such as to require trade clothing, trade hours, trade standards of production, trade associations as far as possible, knowledge of the trade cost of production, and possibly, a sharing of the value of his (or her) output. Being thus in contact with actual reality, some part of the time should be set aside for the study of the technical and more theoretical side of the trade now being followed. Here, however, it is essential that such necessary subjects as mathematics, applied science, art, history, and civics for citizenship, should not require such a style of presentation as to detach them from the pupil's experience. This has undoubtedly been a serious mistake in many schools and continuation classes for supplemental education. There has been too great a gulf between the experience of the pupil and school-studies—too few points of contact for real vocational efficiency. The curriculum of the trades school must give the pupils manual dexterity with a knowledge of tools, processes and materials gained through actual practical work carried out under trade conditions as nearly as possible—one of such conditions being that the instructor must be a qualified tradesman with a certain amount of teaching ability. From the class-room instruction a further knowledge of materials, methods, trade calculations and trade drawing must be obtainable. Other class-room subjects would be technical mathematics, to the extent required in the industry in which a beginning as a worker is being made, and the applied science upon which the principles of the trade depend. Added to these would be such general subjects as office practice, geography of the world mainly as regards the production and transportation of raw materials, history and civics as a guide to citizenship. *The ideal ought to be to train for a trade as though it were a profession—to educate the whole boy:* to do more than merely produce workers who will render more efficient service to their employers, and to do this by instruction in the relation of the individual to the community, in his civic function, in the laws relating to personal and communal hygiene—in addition to offering the pupils a reasonable prospect of main-

taining themselves in adult life."¹⁷ The italics are ours. It seems to us that the passage in question sums up the position. Liberalising, humanising studies and activities are indeed even more essential than the acquisition of dexterity in the craft because the latter side of training goes on and may overwhelm by its monotony unless interests are cultivated which we call extraneous, though nothing which concerns "the whole boy" is so. It is, for example, most desirable that social and musical evenings, excursions, summer camps, sports clubs and any organisation whatever which leads to the rational employment of leisure and the expansion of life through self-realisation, should be developed in connection with crafts schools. And self-realisation means, as we shall see later, the realisation of the social self. Economic efficiency will depend, in part, on this awakening of the social self. Scientific alertness to the possibilities of a craft, and wide interests outside it, can do much to dispel the monotony which is often inevitable under modern industrial conditions. But more than that is needed. The craft must be felt to be a real contribution, through economic efficiency, to social stability and welfare. The ship-plate rivetter may find stimulation in the thought that he is doing something for the linking-up process which must eventually make humanity one. The village postman may go his rounds at all events no less cheerfully for the thought that he, too, has his share, however humble, in that same function. It is not merely a place in the sun but a part in the economic and social universal, befitting his manhood and his powers, that the craftsman can claim. The Kantian conception of humanity as a kingdom of ends, not as a mob of means, is the last word on the matter. The all-round man has gone with the division of labour made necessary by production on a large scale; perhaps some of his lost interest may be restored if the schools can develop the all-round thinker.¹⁸

§10. The school facing commercial vocations presents problems identical in nature with those of the crafts school. Certain dangers are accentuated while others are diminished. There is a real danger of "quick returns of profit" and of courses prematurely cut short. It is easy to acquire fair

¹⁷ South African Journal of Science, Vol. XII, No. 18, pp. 706, 707.

¹⁸ Cf. Kerschensteiner, op. cit., Chapter V.

facility in shorthand, typewriting, and office routine ; to command a moderate salary early ; and to pay the inevitable price in the shape of imprisonment in a blind-alley. The danger is greater than in the case of crafts because it is so easy to forget that the arts just mentioned are purely instrumental and may be called the three R's of commercial education. Craftsmanship is solid and substantive, it requires a five, six or even seven years' apprenticeship, and its portals are jealously guarded by trades unions. When acquired it constitutes a real vocation, whereas skill in shorthand and typewriting and the like are merely a sort of first commercial outfit, not incomparable with a bag of tools. Language and literature not the snippets called "commercial English," Dutch, or what not; science, for commerce is a scientific pursuit; history and geography in their economic aspects; and a thorough mastery of at least one modern language; these general studies are as essential in the commercial school as in any other type. Then there is the technical side, properly so called. Accounts as the index of results, bills of exchange, discounting, the laws of supply and demand : indeed, such an insight into the science of economics as is appropriate to this stage of education, all these things must be part of the course if the commercial school is to justify its existence as a real secondary institution. The danger of monotonous grinding toil is certainly less than in the case of crafts, although abnormally long hours may sap real vocational interest. That detail of organisation is, however, a matter for social rather than educational theory and practice. The main point is that there must be many foci of illumination if commercial schools are to satisfy a liberal conception of vocational efficiency. What was said of social evenings, clubs, excursions and the like applies equally to this type of school. The applications of art, for example, to design, might well be reflected in the curriculum.

There is another vocation, agriculture, for which training schools have not yet been developed to any extent. Yet this the first vocation of man, and perhaps the most natural, may find recruits in the future, if settlements of smaller holdings are developed as an amelioration of industrial conditions. Here in South Africa at any rate and probably in the other dominions also, the problem is a pressing one. A

school farm—the term farm-school has been appropriated for a small preparatory school—might well be the rural parallel of a crafts school. It would stand in the same relation to an agricultural college as the crafts school to a technical college. That is to say, it would meet the needs of the rank and file, labour as distinguished from the proprietor, although in the colonies the two frequently, even generally, coalesce. In South Africa the problem is made more real by the existence of native labourers. The direction and oversight of labour falling to the European, the demand for his specific training becomes the more imperative. A school-farm is a big undertaking. Land, workshops, class-rooms and hostels are essential. The character of the farm would depend on the environment it served. A mixed farm—agriculture and stock—a fruit farm, and a tobacco farm, might each form a valuable training-school in Transvaal. Workshops would provide for rough carpentry, smith's work, fitting and so on, to develop handiness with farm machinery. Classrooms, some fitted for laboratory work of a simple character, others to carry general education up to a higher level would be necessary. The aim of the instruction would be to develop scientific alertness and to cultivate literature and other resources for leisure hours. Training in music, instrumental and vocal, might well find a place. Three or four years spent profitably on a school-farm might well lift this vocation to the level of the highest.

§11. We have had boys in mind in this outline of the essentials of training for vocational efficiency; but most of the theory we have suggested applies equally to the education of girls. And it is clear that while the home is woman's natural field, she is destined to share equally, if in some directions—crafts for example—indirectly rather than directly, the burden and the privilege of social service with men. For the humanistic vocations there seems to be no valid reason for any substantive modification of the curriculum. And the same may be said of the nature group save, perhaps, that girls seem, speaking generally, better adapted for final concentration on biological rather than physical sciences. We say final because preliminary grounding in physics and chemistry is, of course, essential. It will usually be found that both theory and experience justify stress on the arts of music and painting in both humanistic, nature, and

craft schools for girls. In the last-named specialisation on women's vocations would, of course, be made, and we need not emphasise further the importance of going far beyond the area of immediate vocational activity in order to find true efficiency and interest within it. In respect of domestic science and housewifery schools, the same general principles of theory are relevant.

CHAPTER VI

LANGUAGE AND LITERATURE AS A VEHICLE OF ADJUSTMENT

§1. Perhaps a word is necessary, by way of introduction, to explain why we propose to give a separate chapter to the subject of language and literature. Our plan so far has been to try and bring out the structure of the world of nature and the world of civilisation so that the educative process of adjustment to them within individual experience may become clearer; and we propose to follow the same course in the third book where the ideal world, the moral order, will be our topic. Here we seem to be proposing to isolate a vehicle or instrument, a more or less transparent medium and one, moreover, with embarrassing refracting qualities. It would seem that we are abandoning our synthetic principle and leaving ourselves open to the charge of formalism which we have often, by implication at all events, ourselves levelled. The discussion which follows should make it clear that we are proposing no such sacrifice of principle. The aim is to bring out the peculiar and intimate part which language and literature play in that very process of adjustment which it is our endeavour to elucidate. These instruments or media will not be in the focus of attention primarily as subjects of instruction detached from the worlds they mediate. We shall rather regard them as part and parcel, as almost fusing and coalescing with the very substance and fabric, of those worlds.

Our point of departure is, then, again adjustment, as it will be our goal. Another word of explanation may also be appropriate at this point. With the reaction against verbalism in education, by which we mean what, from our point of view, we may call spurious adjustment to reality—seeing life, like the Lady of Shalott, in a mirror that reveals only

shadows—we are entirely at one. Inevitably we can only know most of life, present and past, indirectly through the written record; and knowledge which does not somewhere end in what Professor James called the "sting of reality" hardly deserves the name. But that reaction is a totally different thing from failure to appreciate language as a potent instrument of adjustment and literature, as that which holds the world's best thought in safe keeping and is, consequently, a permanent source of pure delight. Besides, it remains as true as ever, indeed it becomes more obviously true as knowledge accumulates with the years, that a man who does not know his way about among books and has no *anlage* for exploration in that field, will remain relatively uneducated. Again, it is essential that education should place him at the growing edges of knowledge and they are accessible for the majority and in most areas only in the records of investigation. Heuristic methods have obvious limits.

We shall presently consider in some detail the instrumental value of language and the substantive value of literature for the process of adjustment. A summary survey as a preliminary will provide a schema to attend with, which should become articulate as we go on. With regard to the first world, language is the means by which our exploration of it is fixed, and our conquest of it, such as it may be, completed. That is clearly true of what we casually observe. Only those facts are ours which we can clearly formulate in words, as many a teacher, approaching his task lightly, soon learns to his cost. The test of observation of this casual sort is whether we can, as we say, commit an accurate description of it to writing. And when it is a question of observation aiming at scientific exactness, language is an indispensable tool. A diagram, microscopic slide, or photograph, can only be interpreted by this same flexible instrument, now aiding analysis and now synthesis in the process of guiding attention. As to the second and third worlds, language is their very framework. It mediates the "addition of a transparent and responsive world of minds to the dead opaqueness of external things."¹ The second and third worlds differ finally from the first. They are practically non-existent for animals other than man. For a dog the "dead opaqueness

¹ See p. 154.

of external things " is, at all events, an objective reality ; but it is questionable whether even his domestication has produced anything accurately describable as a social continuum, and it is certain, of course, that to talk of a moral continuum for him would be to talk nonsense. And the main reason no doubt is his lack of language as a vehicle.² To differentiate between the function of language in respect of the second world and the third is not easy, for they overlap and inter-penetrate to a very considerable extent. We may suggest that, while it is the vehicle and framework of both, and is to that extent objective, its relation to the third is, in addition, one of subjective reinforcement ; for, as we shall in the third book see, the objective moral order must be maintained by continuous individual acts of creation, for which subjective process language is a peculiarly essential instrument. We may put it in this way. The social world stands out objectively a " transparent and responsive " continuum largely by virtue of language ; while the moral world is recreated and re-inforced subjectively, from hour to hour, just in proportion as moral ideals can be discriminated in the psychoplasm,³ and for this discrimination their formulation in language is indispensable.

We may also note here how, with the progress of aesthetic development, language as a vehicle and the thought which it carries tend to fuse and coalesce. Let us look at three illustrations of poetic genius at its pinnacle of achievement. We take the first from the immortal soliloquy on sleep which Shakespeare makes Henry IV. deliver :

" Oh thou dull god . . .
 Wilt thou upon the high and giddy mast
 Seal up the ship-boy's eyes, and rock his brains
 In cradle of the rude imperious surge "⁴

The second from where Perdita finds in flowers an outlet for her pure and ardent soul :

" Daffodils,
 That come before the swallow dares, and take
 The winds of March with beauty,"⁵

² Ward, Psychological Principles, p. 286.

³ See p. 19.

⁴ King Henry IV, Part II, Act III, Scene II, lines 15-20.

⁵ The Winter's Tale, II, iv., 118-120.

and the third from the sustained magnificence of Browning's Grammarians Funeral :

" Our low life was the level's and the night's;
He's for the morning."⁶

In these passages form and content are with such consummate art commingled, that we cannot say which it is that lifts us up and holds us enthralled. They are fused in a living unity. Language has here ceased to be a vehicle : it is one with the great thoughts which inspire it. That is why literature like this lives on in a way which, perhaps, even the masterpieces of music and painting cannot approach. The union of form and content once, as here, caught and sealed, is eternal. It is not subject to decay or disintegration. It is there, in unfading lustre, for all time. Schooling which fails to ensure adjustment to beauty like this, has surely failed very grievously.

§2. But we must hark back and examine briefly what psychology and logic have to teach about language as an aid to actual conscious process and to valid conscious process respectively. For before the instrument and the process it facilitates fuse in the æsthetic unity of literature and, to some extent also, in the unity of logical language, there is a preliminary stage, essentially the stage of education when they remain, in intimate association of necessity, but yet not so wedded as they ultimately will be. Language often runs ahead of its full and precise implications, and is apt to lead the speaker or writer into the labyrinth of error or the bog of confusion ; just as coins, in the hands of the improvident, are used without any adequate appreciation of what constitutes real value. So also there is a corresponding negative weakness, looking at the matter from the same point of view, that of the instrument. Thought may run ahead of its vehicle and may evaporate before it can add to the sum-total of real acquisition just because the vehicle is not flexible enough to carry its intricacies and ramifications. The logical ideal is the same as the æsthetic one we have just illustrated from literature ; that is to say, it is attained when instrument and mental process are adequate to each other and blend in that

unity and coherence which is characteristic of logical thought, speech and writing; and we may note that the difficulty of attainment is increased by the social nature of language, which, from the point of view we occupy here, is at once its strength and its weakness. We share through language in common thought, in the general mind, but there is some risk in drawing upon this our legitimate inheritance. We may masquerade in borrowed plumes which do not fit, and which may reveal their alien and so far useless character at some critical moment when our individuality, our own unaided power, is at stake. We have, therefore, to be clear about this relation of instrument and mental process, if we are to direct the educative routine which aims at their better adjustment.

Psychological and logical theory are adequate for guidance in this respect, for the problem is an old one. We may safely refer the reader to the full and illuminating discussion to be found in Dr. Stout's *Analytic Psychology*.⁷ The analytic standpoint is perhaps more useful for a theory of education, although the keen student will do well to become thoroughly familiar with the genetic account of the relation between language and thinking also; and he will find the same author's *Manual*⁸ very suggestive for that purpose. The main points for us seem to be these. The first is the conventional nature of language as a system of expressive signs and, what is an immediate consequence of this, the artificial character of the bond between a word and its significance, whether complete and precise as in the ideal world of logical thought, or fragmentary and indefinite as in the actual world of individual conscious process—education being the means whereby the actual is progressively, but never finally, adjusted to the ideal. The conventional character of the sign and the artificial character of the bond are apt to be forgotten. Teachers are prone to pass from the consciousness of the existence of the link between a word and its developed apperceptive system in their own minds to the assumption of the existence of the same link, and the same things linked, in the minds of their pupils. They are apt to forget the slow process of development of apperceptive systems and consequently

⁷ Vol. II, Chapter X.

⁸ Book IV, Chapter V.

of the significance of words. And words are the keys liberating the acquisitive power of these systems.

On the other hand—and this is the second point—it is most necessary to realise the command which the word gives over the idea or the apperceptive system, artificial though the bond may be. Dr. Ward says: “The form and colour of what we call an ‘orange’ are perhaps even more intimately combined with the sound and utterance of this word than with the taste and fragrance which we regard as strictly essential to the thing. But, whereas these physical attributes often evade us, we can always command the nominal attribute in so far, that is, as this depends on movements of articulation.”⁹ This ready command is probably due to two general principles. One is the working of heredity which appears to launch the child with a tendency to utterance, whether we lean to Lamarckism with regard to the transmissibility of acquired characteristics or not. The other is the general tendency of an idea to run over into motor activity—in this case the production of the “articulation-sound complex”—which the late Professor James,¹⁰ following Bain,¹¹ has so clearly demonstrated. Moreover, we have to note the great command which the child has over his vocal organs and the derived command over percepts and generic images, and over these again as media of concepts which mental process is constantly developing. In fact we have to take account of the mental economy in this command over the “articulation-sound complex” whereby there is a natural and easy transition, even with the young, from the use of words as expressive signs to their use as symbols for thought. On the one hand we are faced with the fact that words rapidly become counters easy to manipulate, and consequently subject to misuse, as we have noted in the preceding paragraph. On the other we have the fact that, while the halo of ideas may be extremely tenuous, as Burke noted,¹² it is seldom so thin as not to be effective in preventing flagrant misuse of words. This fixating power of words is clearly one which the teacher must make full use of. The more a pupil becomes articulate in expression the more likely is it that his ideas will become

⁹ Psychological Principles, p. 296.

¹⁰ Principles of Psychology, Vol. II, pp. 522-528.

¹¹ Stout, Manual of Psychology, pp. 485, 486.

¹² Stout, Analytic Psychology, Vol. I, p. 80.

organised as knowledge. And it is safe to say that, while the teacher should be constantly on the alert to sound and plumb the ideas which the words evoke, he should encourage to the fullest extent possible the use of this natural and perhaps hereditary instrument of speech, just because it is constantly clarifying and organising the system of ideas which it carries along with it. It is notorious that children coming from homes where they have been encouraged freely to express themselves, and even to reach out to the universe of discourse appropriate to their parents rather than themselves, are far more acquisitive and develop far more rapidly than others less fortunate in this respect, when they come into the environment of organised schooling. Above all it is necessary to remember that the development of concepts and conceptual thinking is a gradual process never attaining finality with the most mature; so that any short-sighted postponement of the use of terms until their full logical implication is understood, or *per contra*, any attempt at a premature "rounding off" of concepts which might seem to justify the use of the terms which are their vehicle, is likely to defeat itself. Perhaps one of the soundest of all principles of method is that which recognises the constant inter-play of the empirical and the rational within experience. We need not hesitate to let a boy talk freely of gravity although his conception of it may be totally inadequate; provided, of course, we take care that he is constantly progressing towards an adequate idea. We may go further and assert that a pedantically accurate use even of technical language is not by any manner of means an aim of sound pedagogy. The universe of discourse is, after all, a universe full of play and give and take. We enjoy Shakespeare not least when he is not a purist; and Ball's "Story of the Heavens" has been a *via media* to many a happy hour for the amateur astronomer.

The two points of psychological theory we have emphasised arise out of the nature of the relation between a word and the percept, idea, or apperceptive system to which it is linked. We may summarise them by saying that, while the first brings out the danger of a facile use of words, unless it is constantly checked by reference to the mental content which is, for the individual using them, their meaning, the second brings out the unique value of words in giving command

over mental content. The third we wish to note is an extension of the second, and is illustrated when words are combined into sentences and discourse. This extension has been implied in what has been said above but we must now look at it more closely. We come at this point to language as pre-eminently a tool or instrument of thinking in its double aspect as analysis and synthesis, to the elaborating and perfecting of which man owes much of his mastery over the world of nature and most of his success in constructing the social and the moral worlds. Although the analytic and synthetic functions of language are almost indistinguishable in mature thought, being aspects or moments of what is an indivisible act, we may for convenience of exposition look at them separately. We may take as an illustration the elucidation of the features which make a straight line an accurate representation of a force. A force may be said to be completely determined if (a) its point of application, (b) its direction, and (c) its magnitude are known. Also we can draw a straight line (a) from any point, (b) in any direction, and (c) of any length. Hence a line may be drawn which will accurately represent a force. And it is evident that the process of judgment whereby we arrive at the correspondence of force and line in respect of these three determining data, is very materially facilitated by the command which the terms, point of application and starting-point, direction and magnitude give us over the ideas which they mediate. Our power over the words enables us to hold in abstraction the three elements in each complex. In the same way the terms melody and rhythm enable us to attend separately to these two elements which are combined in the unity of a musical phrase. Dr. Stout examines exhaustively how command of the words makes it easy for a child to analyse such a complex of perception as a flying sparrow and thus obtain command over the subject—predicate relation, the judgment.¹³ We may add as a fourth illustration the value of such a term as psychoplasm¹⁴ in giving us through its analytic and fixating power a hold over such a difficult and evasive idea as that of consciousness as a continuum. So that along the whole gamut of conscious process, from the simplest percept to the

¹³ Analytic Psychology, Vol. II, pp. 198, 199.

¹⁴ See pp. 19, 277.

most abstract idea, we see the fixating and controlling function of the word, the "articulation-sound complex."

Its synthetic function is no less striking, and it is but another side of the one process. The analytic and synthetic functions are, indeed, like the concave and convex sides of a curve. They are aspects of a single whole. This will become clear if we consider each of the illustrations we have just used. The word magnitude applied to a line or a force, enables us, by analysis, to hold apart this feature of a whole, but it does so just because it calls up the idea or apperceptive system, organised in consciousness through our past experience of magnitudes, and by synthesis appropriates with ease this new instance of it. Through a further elaboration of this same synthetic process, the combination of the terms point of application, direction, and magnitude of a force, in a sentence, facilitates the mutual interplay of the corresponding ideas or systems and the conception of a force in its synthetic unity emerges. We need not illustrate the point further. If we consider this analytic-synthetic function in its full bearings we shall be justified in describing language as an architectonic instrument in its relation to thought.

We may conclude this part of our discussion of language with a reference to Bergson.¹⁵ His is the philosophic point of view, but it is closely bound up with the psychological and logical aspects of the question. He is considering the ultimate epistemological differentiae of instinct and intelligence and one of them he finds in the fact that "*the instinctive sign* is adherent, the *intelligent sign* is mobile,¹⁶ and by sign he means language. "If the ants," he says, "have a language, the signs which compose it must be very limited in number, and each of them, once the species is formed, must remain invariably attached to a certain object or a certain operation: the sign is adherent to the thing signified. In human society, on the contrary . . . a language is required which makes it possible to be always passing from what is known to what is yet to be known. There must be a language whose signs—which cannot be infinite in number—are extensible to an infinity of things. This tendency of the sign to transfer itself from one object to another is charac-

¹⁵ Creative Evolution, pp. 165-169.

¹⁶ Ibid p. 167.

teristic of human language."¹⁷ The transference takes place in the exercise of that architectonic function of analysis and synthesis which we have just illustrated. He has a characteristically lucid passage where he describes how words, originally applied to things, come to be the vehicle of ideas also, which we must be allowed to quote : " It is only because the word is mobile, because it flies from one thing to another, that the intellect was sure to take it, sooner or later, on the wing, while it was not settled on anything, and apply it to an object which is not a thing and which, concealed till then, awaited the coming of the word to pass from darkness to light."¹⁸

There is a body of logical doctrine dealing with the connotation and denotation of terms, definition and classification, which is pertinent to the instrumental function of language we are considering, and is extremely important and valuable for a theory of education. It is, however, fully treated in the text-books on logic and the applications of logic to education, so that we need do no more than refer the student to it.

§3. So far, language as a cognitive instrument has been our point of view. It is also instrumental in relation to emotional and moral life and a note on it in this regard will afford a natural transition to our consideration of literature as substantive in contrast to language as instrumental. The two aspects are, as a matter of fact, almost one at this point. In illustration of the way literature can heighten emotional life we may quote from Swinburne's " *Itylus* " :

" Sister, my sister, O fleet sweet swallow,
Thy way is long to the sun and the south ;
But I, fulfilled of my heart's desire,
Shedding my song upon height, upon hollow,
From tawny body and sweet small mouth
Feed the heart of the night with fire."

Here we have the master liberating through the beauty and the sweep of his æsthetic synthesis, a flood of emotion. A wealth of association which has been accumulating without our knowledge is suddenly revealed. We find that our communion with nature has been deeper than we knew. The

¹⁷ Ibid p. 166.

¹⁸ Ibid 168-169.

mind is suffused with emotional warmth; and the flash of appreciation which sets the tide free is parallel to the sudden illumination which such a term as psychoplasm throws on the obscure region of psychological analysis. It is at once a reinforcement and a discharge of emotional momentum. The same thing happens in the moral life when we suddenly come across the crystallisation in literature of an ethical principle as in Tennyson's :

" How dull it is to pause, to make an end,
To rust unburnished, not to shine in use."

The moral consciousness expands and glows with the revelation of moral truth which had been, perhaps, vaguely felt but now stands out in the vehicle of language. The higher self is re-enforced and another upward step is taken; and literature points the way. Language has here ceased to be merely an instrument. It has become a stimulus guiding and reinforcing moral impetus. "We cultivate refined pleasure in noble literary work by stirring up their [our pupils'] minds, as far as we can, those ideas which respond to the magnificent, picturesque, or subtle ideas enshrined in great books. Thoughts not entirely mean, lying somewhere like dull sparks in ourselves, burst into flame in the atmosphere about great writers."¹⁹ Such passages help to make stable the orientation of the individual to three worlds : nature, civilisation and morality.

So far it is just this orientation of the individual and the part language plays in it, that we have had in mind. And it may be thought that there is no other point of view than this individualistic one. Of course it is recognised that language is primarily a means of intercourse and is so far a social phenomenon. But it may be held that, while it is social in origin and in function also so far as it is an instrument of communication, there is a real sense in which, in the form of literature, it is a medium for the play of non-social, i.e., individualistic feelings. Literature is a source of solitary enjoyment : it is often a means of escape from our fellows and of shutting ourselves off from society. It is the haven of individual leisure. All this is true but partial ; it is not the whole truth. It is true that literature is often a means of escape

¹⁹ Barnett, Common Sense in Education and Teaching, p. 172.

from the familiar, the dull, and the uncongenial in society, and is, so far, a vehicle for individualism. But it is also a means of entrance into another social world, one of the imagination, where the reader finds a sphere of action or thought which he can share with the writer, a world where adventure replaces routine, and the congenial the dull. It seems, in the mirage of phantasy, to be a more appropriate theatre for the development of the self. But our point is that literature, like the language it originates in, retains its social character even when it appears most to pander to individualism. It mediates a transfer from one social environment to another.

§4. We come to the question of language and literature in their most fundamental purpose which is to form a vehicle for that "transparent and responsive world of minds." For that world language is what matter—by contrast "the dead opaqueness of external things"—is for the first the world of nature. It gives to it substantiality, continuity, and above all, objectivity. We have examined the political, national, religious and economic relationships which make up the social fabric. Language and literature are on a different footing. They are co-extensive with all these different relationships and furnish the medium of their permanent existence. No doubt these relationships have the same objective reality as the material world itself; but being all ultimately of a mental or spiritual texture they require a medium or vehicle which will make them possible of manipulation, and such a medium language and literature provide. So that our treatment of these must change. So far we have regarded them as instrumental and subjective; as the means by which the individual reaches out towards, captures, and, so far as in him lies, makes permanent his conquest over objective reality, whether material or spiritual. Now we must consider them as substantive and objective, as at once the texture and the depository of spiritual achievement which education should lead him to claim, so far as in him lies, as his inheritance.

We may begin by noting the continuity and unity of language and literature. For, on the one hand, the best of literature is not at a uniform level of excellence: the passages which reach heights whence they dominate the ages are few,

and they are linked together by others which make the transition in work-a-day garb.²⁰ Otherwise light and shade which are necessary, both from the point of view of construction and appreciation, would be lacking. And, on the other hand, we ought to try to lift up and refine language as a vehicle of social intercourse, whether spoken or written. As Mr. Barnett says, "social sympathy and the grace and ease of social intercourse are matters of real and abiding importance."²¹ It is to be remembered that the adjustment we are to seek implies the power to talk easily and naturally, to convey our meaning with point and without verbosity, and to write a letter or a description of an event in the same way. That adjustment will not be secured if the literary models we introduce to our pupils remain high and dry, cut off from any relation to our daily intercourse, and operative as standards only in a remote and rare atmosphere. There is no reason why ordinary language should not now and then rise to literary grace and ease just as literature must sometimes make its transitions in ordinary language. "The poet may be made by the joys and sorrows of earthly experience. It is sometimes said, indeed, that every man becomes a poet once at least in his lifetime."²² At any rate, we must do what we can to make the literature our pupils read an operative factor in the refinement of the language they habitually use. "Power of appreciation . . . can be so cultivated that the art of expression is easier. The more carefully we read and examine the work of great writers, the easier is it for ourselves, when we speak, to say what *we* mean. This does not necessarily imply that we make models of great books propounded for our study : it means rather that every effort to discover the secret of the rhetorical power of a fine passage or the ethical influence of a great book quickens the divine spark in ourselves."²³

It is worth while pursuing this point, the oneness of language and literature, a little further. It would seem best to recognise frankly what life teaches every day, namely, that pleasure and perspective are to be had at all levels, but that change of altitude is good for mental as for physical

²⁰ Cf. Quiller-Couch, *On the Art of Writing*, Lecture IV.

²¹ Op. cit., pp. 202, 203.

²² Adams, op. cit., p. 170.

²³ Barnett, op. cit., p. 171.

well-being. We ought to climb to the hill-tops of literature as frequently as we can, so as to catch the vistas stretching away, and feel the stir and expansion they bring to our emotional life. But the air is at once too rare and too stimulating to make them a permanent residence for ordinary mortals. On the other hand the low levels—"the unlettered plain, the vulgar thorpe"—on which we are destined to pass most of our days, are not without pleasant bye-ways of their own; and, as we have suggested, there is no reason why the light from the hill-tops should not penetrate them. The air below may sometimes become heavy and overcharged with the common-place and the sordid, but there is always the possibility, even in most crowded hours, of an excursion to the hills. In plain words we must improve, not despise, the language of the street, the workshop, the market-place and the home. We must refine the currency of social life and with it the newspaper and the periodical—which we cannot do without. The novel and the play to which we may assign, with biographical and descriptive work, the middle levels, will, if there can be a general uplift, catch something of the spirit and atmosphere of the master-pieces. Literature is not something apart but just the perfecting, by the highest art, of the natural and the commonplace. It is the apotheosis of language. The doctrine of Kant with regard to the sublime and the beautiful is pertinent here. Objects—literature among them—are beautiful for us in proportion as we can, through imagination and understanding, combine their elements with ease. They are beautiful for us, that is, if our powers and our personality can find free play in contemplating them. "The mere form of the object, in the unexpected and unaccountable sympathy by which, as imagination combines its elements, it almost leaps forward to harmonise with the requirements of understanding, constitutes its beauty."²⁴ And the feeling of the sublime "is due to the revelation that we have a higher vocation and a nobler humanity, which commands the imagination by a vague idea and keeps us tranquil amid the grandeurs of nature."²⁴ Appreciation of the beautiful and the sublime, in nature or in art, depends on subjective power as well as objective form. To resume our metaphor, the way to the hill-tops of

²⁴ Wallace's Kant, p. 194.

literature is by a path which starts from the plains below. There are few vistas for those who are never sure of their footing.

To repeat, the way to literature and to literary appreciation is through developing power over language as a medium of ordinary intercourse; just as we have seen, the way to this very development is made easier through the growth of literary appreciation. Language and literature are one, in mutual and organic relation. "Without training in the use of language, literature cannot be fully understood or properly appreciated. Without the study of literature there can be no mastery over language."²⁵ It follows that the literature of the home language, the mother tongue, should be the first field explored. We need not be too anxious or too careful about the selection, at any rate so far as our anxiety concerns capacity for appreciation. The young are readier to climb high up the hill and roam freely over it than we usually imagine. We shall be guided by common-sense, of course; starting out along the broad high road of romance: of bold outlines, adventures, stirring deeds, and high hopes. Fiction will gradually be leavened with fact, as represented by the historical novel, for example, and this will lead on to the classical historians. Poetry we must have plenty of, for rhythm and melody are good things of life which the young hunger after once the taste is got. It will be of the ballad and lyrical form at first; then epic; then dramatic. A good anthology of verse is a standing source of delight at every stage from early adolescence onwards. Selections from Wordsworth, Tennyson and Browning are good for all; and, as to Shakespeare, I can testify from a recent experience of my own to the intense delight which a class of Dutch boys and girls of an average age of about sixteen years had got from the reading of Julius Cæsar. And if this is true for them, how much more true must it be for those to whom Shakspeare speaks in their native language. As to a general principle of selection there is no better one than that laid down by Mr. Barnett. "Literary interest," he says, "is, at bottom, an interest in man. We are first of all interested in his doings, then in his thoughts. When we are children, it

²⁵ Board of Education Circular No. 753, par. 2. It is full of sound theory and practical suggestion.

is action that fascinates us; as we get older we know that the thought, the thought sometimes expressed in the 'winged word,' is the truer life of man. That is why young people and people who remain young love romances, and why people who know the world and have thought about it find their highest literary pleasure in works that deal with action reflectively."²⁶ And pupils of the fourth, fifth and sixth forms, imbued with the boldness and spontaneity of youth, are ready to "deal with action reflectively." We may add that pupils of all secondary forms revel in the literature which catches and throws back the beauties of nature.

§5. In order to give point and perhaps practical suggestion to these general considerations, we propose to submit a scheme of reading in English developed for Transvaal schools, and adopted by such of them as find it helpful. It is only put forward as illustrative. It seems to be beyond all question sound to leave the elaboration of a scheme to the master or mistress²⁷ in charge of literature. In this subject, indeed in all but especially in this, the teacher should have a free hand. Within the broad limits set by sound theory and experience, the literature scheme should reflect the individuality and even the idiosyncrasy of the school. We say the school deliberately because pupils and form masters or mistresses, as well as the specialist in charge of the subject, should be called in counsel. There are innumerable paths which open out on to the hill-tops and the excursion will be the more delightful in proportion as the choice is free and of common accord.

The course includes set works to be read in school and other works for home reading. The scheme provides for discussion in class of the books read at home, for the voluntary recitation of a favourite poem or prose extract, and for the acting and declamation of passages or scenes. The "standards" correspond nearly enough to the English scheme of organisation of primary pupils and the fifth form is the matriculation form.

²⁶ Op. cit., pp. 179, 180.

²⁷ The course for home reading was drawn up by Miss Clephan, English mistress in the Pretoria High School for Girls

*A Course in English Literature**Standard IV*

Reading at home and in school of some of the following :

Ruskin	-	-	-	King of the Golden River.	" Told to the Children " series.
Kingsley	-	-	-	The Water Babies.	
Bunyan	-	-	-	Robert Bruce.	
Robinson Crusoe.				Pilgrim's Progress.	
Uncle Tom's Cabin.					
Tales from the Iliad.					
Tales from the Odyssey.					
Molesworth	-	-	-	An Enchanted Garden.	
Molesworth	-	-	-	The Cuckoo Clock.	
Ewing	-	-	-	Jan of the Windmill.	
Ewing	-	-	-	Six to Sixteen.	
Hans Anderson's Tales.					
(Nelson)	-	-	-	Tom and Maggie Tulliver.	
Nesbit	-	-	-	The Red House.	

Standard V

Reading at home and in school of some of the following :

Harris	-	-	-	Uncle Remus.
Ewing	-	-	-	Six to Sixteen.
Kipling	-	-	-	The First Jungle Book.
Macgregor	-	-	-	Stories from the Ballads.
Marshall	-	-	-	Stories from Robin Hood.
(Jack)	-	-	-	Stories from Arabian Nights.
Lang	-	-	-	Stories from Shakspeare.
Lang	-	-	-	Stories from Don Quixote.
Lewis Carroll	-	-	-	Alice in Wonderland.
Strang and Aston	-	-	-	Claude the Archer.
(Bell)	-	-	-	Mrs. Over the Way's Remembrances.
Yonge	-	-	-	Book of Golden Deeds.
Scott	-	-	-	Ivanhoe.
Ewing	-	-	-	The Brownies.
Lang	-	-	-	Joan of Arc.
Strang and Aston	-	-	-	In the New Forest.

Standard VI or Form I

(i) Reading of selected poems. Poems of action as well as narrative and descriptive poems are appropriate.

(ii) Reading at home and in school of some of the following :

Haggard	-	-	-	King Solomon's Mines.
Stevenson	-	-	-	Treasure Island.
Stevenson	-	-	-	Kidnapped.
Zimmen	-	-	-	Gods and Heroes of the North.
Hawthorne	-	-	-	A Wonder Book.
Kingsley	-	-	-	Hereward the Wake.

Scott	-	-	-	Ivanhoe.
L. Alcott	-	-	-	Good Wives.
Hoffman	-	-	-	Story of the Tempest.
Hoffman	-	-	-	Story of a Midsummer Night's Dream.
Porter	-	-	-	Scottish Chiefs.
Dickens	-	-	-	The Christmas Carol.
Alcott	-	-	-	Little Men.
Hope	-	-	-	Prisoner of Zenda.
Dickens	-	-	-	Little Nell.
Kipling	-	-	-	Puck of Pook's Hill.
Bowen	-	-	-	Defender of the Faith.
Hughes	-	-	-	Tom Brown's School Days.
Irvine	-	-	-	Rip van Winkle.
Lytton	-	-	-	Harold.
Cooper	-	-	-	The Last of the Mohicans.
Swift	-	-	-	Gulliver's Travels.
Fonque	-	-	-	Undine.

Form II

(i) Reading in class of at least one classical prose work, such as *Treasure Island*, *The Talisman* or *Westward Ho!* There is no reason why *Julius Cæsar* or *The Merchant of Venice* should not be read.

(ii) Ballads, narrative and national poetry, are appropriate.

(iii) Reading at home and in school of some, say four (one each quarter) of the following :

Scott	-	-	-	The Talisman.
Chaucer	-	-	-	Stories from.
Longfellow	-	-	-	Evangeline.
Barrie	-	-	-	The Little Minister.
Scott	-	-	-	Quentin Durward.
Dickens	-	-	-	David Copperfield.
Scott	-	-	-	Lady of the Lake.
Malory	-	-	-	Selections from.
Bowen	-	-	-	Prince and Heretic.
Goldsmith	-	-	-	Poems and Plays.
Blackmore	-	-	-	Lorna Doone.
Anstey	-	-	-	Vice Versa.
Lytton	-	-	-	Last Days of Pompeii.
Wagner	-	-	-	Stories from.
George Eliot	-	-	-	Tales of Clerical Life.
Stevenson	-	-	-	The Black Arrow.

Form III

(i) Reading in class of at least one prose work and a liberal amount of poetry. A historical play of Shakspeare, a historical novel, e.g., "The Tale of Two Cities," heroic and narrative poetry, e.g. Marmion, romantic poetry, e.g. The Idylls of the King. Any selection from such works as these is appropriate.

(ii) Reading at home of some, say four (one each quarter) of the following :

Thackeray	-	-	-	Vanity Fair.
Scott	-	-	-	Woodstock.
Fothergill	-	-	-	The First Violin.
Bowen	-	-	-	Prince and Heretic.
C. Bronte	-	-	-	Jane Eyre.
Kingsley	-	-	-	Westward Ho !
Dickens	-	-	-	Pickwick Papers.
M. Arnold	-	-	-	Selected Poems.
George Eliot	-	-	-	Mill on the Floss.
(Harrap)	-	-	-	Stories of King Arthur.
Tennyson	-	-	-	Idylls of the King.
Mary Johnston	-	-	-	By Order of the Company.
Bowen	-	-	-	I Will Maintain.
Sheridan	-	-	-	Plays.
Reade	-	-	-	The Cloister and the Hearth.
Thackeray	-	-	-	Esmond.
Wordsworth	-	-	-	Selected Poems.

Form IV

(i) One work, usually a play of Shakspeare, studied in detail. Detail is, of course, relative to the age and development of pupils and should never encumber appreciation of the whole. Reading over of a passage or a scene, as a whole, is as necessary after as before detailed study.

(ii) Two other works for general study.

(iii) Home reading of not less than four works selected from the following :

Tennyson	-	-	-	Enoch Arden.
Lamb	-	-	-	Essays of Elia.
Coleridge	-	-	-	Poems.
Kingsley	-	-	-	Hypatia.
Barrie	-	-	-	The Little White Bird.
Addison and Steele	-	-	-	Sir Roger de Coverley Papers.
Thackeray	-	-	-	The Newcomes.
Browning	-	-	-	Selected Poems.
J. L. Allen	-	-	-	The Kentucky Cardinal.
George Eliot	-	-	-	Silas Marner.
Stevens	-	-	-	With Kitchener to Khartoum.
(Harrap)	-	-	-	Stories from Dante.
C. Bronte	-	-	-	Shirley.
Gaskell	-	-	-	Cranford.
Washington Irvine	-	-	-	Columbus.
Newbolt	-	-	-	Collected Poems.
Bowen	-	-	-	I Will Maintain.
Reade	-	-	-	The Cloister and the Hearth.
Wordsworth	-	-	-	Selected Poems.

Form V

(i) One work, usually a play of Shakspeare, to be studied in such detail as has appreciation rather than scholarship for its object.

(ii) Three other works for general study in class.

(iii) A selection of works for home reading. Those for Form IV are suitable and indicate the type.

Any such course should put the pupils who follow it *en rapport* with the second world, the "transparent and responsive world of minds" in its highest form, the spiritual form which literary genius has created and which shines through it as a political, national, social, economic and religious fabric. This is the effect of literature, although its creation is spontaneous and certainly pervaded by no conscious purpose. And it should be the aim of the study of literature, kept hidden at the back of the head of the teacher, of course, for it is not to be paraded before those who read in the vain hope that it may furnish a stimulus. It will be no more a stimulus to them than it was to the writers themselves. It is when the fire of individual enthusiasm has been kindled that the after-glow of social sympathy may be expected; but no exhortation about the after-glow will help to kindle the fire. Mr. Nowell Smith says: "The objects of literary studies as a part of education are (1) the formation of a personality fitted for civilised life, (2) the provision of a permanent source of pure and inalienable pleasure, and (3) the immediate pleasure of the student in the process of education. None of these objects is exclusive of either of the others. They cannot in fact be separated in the concrete."²⁸ They cannot be separated as aims, and our further point is, they should not be discriminated as aids to treatment. The theory of education is a subtle thing: it is more appropriate to the study, before and after a lesson, than to the evolution of it in the class-room. The adjustment to literature as the flower of civilisation is the cumulative effect of lessons, home-reading, and leisure given to books; it is no "quick return of profit."

§6. The books we select for our pupils to read will all be tinged with the colour of the time and circumstances of

their origin, and it would be foolish not to make use of the fact. They give life, the stimulating atmosphere of literature, whether prose or poetry, descriptive or dramatic, narrative or reflective, to the dry bones and dust of fact. As Mr. Barnett truly says: "Political history, social history, economic history, even ecclesiastical history, are all reflected, illustrated, and interpreted by what we find in the great books of contemporary literature."²⁹ There is a natural, indeed an organic, connection of literature with all other subjects of study, and correlation of it with them is an easy pedagogic deduction. But the very closeness of the relation—almost that of form with content—is a source of danger. We ought not to let literature become ancillary. Complementary it may well be, but subordinate never. The very fact that "*la littérature est une chose qui touche à toutes choses*"³⁰ should put us on our guard. From its genetic association with definite times and circumstances literature has certain qualities: Chaucer breathes the warmth of an intensive and narrow social life, Shakspeare reflects the wide sweep towards humanity, Dryden an artificial age, Tennyson and Wordsworth the swing back to romanticism. This is the chronological setting which gives realistic quality. Herein lies a part, but not the greatest part, of its appeal. That is to be found in the directness, intimacy and universality of the thought which transcends time and circumstance and makes the actual the vehicle of the eternal. And this it is which must be the focus of directive educational effort. As lights on life in time, the great works of literature serve a useful, a great purpose; as lights on life in eternity, they are an end in themselves. "The study of History may often be lit up by apt illustrations from literature. . . . Any attempt, however, to erect it into the principle of selection or to apply it mechanically will only do harm in both subjects. Literature should not be subordinated to History any more than History should be subordinated to Literature."³¹

There is another parallel danger. It arises also out of the temptation to subordinate literature to the level of a

²⁹ Op. cit., p. 170.

³⁰ Quoted by Mr. Nowell Smith from Emile Faguet in Cambridge Essays on Education, p. 104.

³¹ Board of Education Circular No. 753, par. 20.

means; only the danger is greater because in this case the end may be mean and unworthy. We refer to patriotic literature. In dealing with nationality as a strand in the social fabric, we laid stress on its essential importance; but we endeavoured to make it clear that it was but an emotional stepping stone, a necessary vehicle for the universal of humanity.³² The same principle is pertinent here. We need to use the glorious utterances of Shakspeare, Milton, Wordsworth and Newbolt, which make home, birth-place, language and race resound in the uttermost depths and heights of our being. But we can very well do without such songs as "*Deutschland über alles*" and "*Rule Britannia*," which in their hollow blatancy, evoke the resonance of a narrow individualism within the circumference of a few thousand square miles, and provoke an echo of discordance everywhere outside it. It is the music of humanity that echoes from the hill-tops of literature.

So far we have had the literature of our own language solely in mind. Our point of view brings it first into focus. The first adjustment must be to our own spiritual environment: our own as it exists here and now about us, and our own by inheritance. There is another reason why it should come first in our deliberations. All our pupils in whatever type of school they are enrolled, must be given a footing in this world. It is a common inheritance and all must enter into possession. No differentiation of types of school and no considerations—social, economic, or what not—affecting the length of schooling, should be allowed to close or narrow unduly the avenues of approach to this world. The most cursory glance over continuation and extension courses, organised to meet the wishes of those whose schooling has been cut short by grinding economic necessity, will reveal their hunger for the humanities. They are keen enough on courses designed to improve their directly vocational efficiency; they are far keener on the courses which open up the fields of literary treasure. Their hunger is for the humanities which their beggarly chances at school found no room for. If the social revolution is to escape the fate of the political revolution, it will be by the multiplication of avenues of approach to the world of which literature is the

³² See pp. 182, 183.

vehicle, for there a man can find what is consonant with the best that is in him. The labour of his days can be made lighter by the abiding sense of membership of the society of letters, as the leisure of his evenings can be given over to literary adventures provocative of joyous wrestling. And if the foreign correspondents are beyond him he will be able to make good shift with the masterpieces of his own tongue. What is clearly imperative is that they shall be accessible.

§7. Whether every pupil should have a chance to explore the social, economic, and literary environment of at least one other people besides his own, by acquiring some facility in their language, is a question of the time at disposal. If such a chance means sacrificing a proper balance of studies, that is, endangering a rational orientation to the vocation, liberally interpreted, which is to be his, then it cannot be given him. If it means, for example, curtailment in respect of native literature, or history, or science, it must go. But if all are to enjoy schooling till the completion of the sixteenth year—and that minimum should be fixed by law—there should be room enough for one modern language, other than the mother tongue, in the curriculum of every type of school. In these days when a League of Nations is the rational machinery of international relations, there is no need to enlarge on its value. Adjustment to the new order of things must be based on mutual understanding, not by social and political leaders only, but by as large a number as possible of the people themselves. Personal intercourse may be limited mainly to the leaders, but it will be a great achievement if, say, French and German newspapers and periodicals, and better still standard works of literature, can find a place and a currency in English clubs and libraries. Even if the idiom and the idiosyncracies of a language and a life other than our own evade us, we can at least get a point of view and perhaps some of the magnanimity which a wider vista evokes. On the frontiers of the empire, as here in South Africa, the curriculum of life decides, in this respect, the curriculum of the schools. Only the very narrow and the very short-sighted shirk the effort to adjust themselves to a second environment by learning a second language. Practically every pupil in the Transvaal public schools learns both English and Dutch, and since the barrier between primary and

secondary education is rapidly disappearing into the limbo of social stratification whence it emerged, the danger of a disturbance of the balance of studies is disappearing with it. The experience of this social and national laboratory may not be without value for the solution of racial and national problems over a wider circumference and involving many more millions. And it can be said with certainty as the outcome of that experience that in proportion as, through language, mutual understanding is widened and deepened, mutual antipathy is diminished and with it racial friction. And on the positive side there is a revelation of the compatibility, and an impetus to the mutual re-enforcement, of social and ethical ideals which may superficially differ. Fortunately we in South Africa cannot shelve the problem because of economic inter-penetration. The English used to be the town dwellers and the Dutch the farmers, but now a rapid process of intermingling in town and country is going on. In Canada there is, one understands, a greater measure of segregation. In our case, at all events, the problem of intercourse is a real and palpable one. And a knowledge of the two official languages is clearly an essential step in adjustment and may be the way to a solution of many social problems.

Here we are brought up against one of the inherent perplexities of social life. There may be only one language but it has as many meanings as there are individuals using it. *Quot homines tot sententiae* is true so far as it goes; but it does not go nearly far enough as a plummet of truth. There must be as many opinions as there are men just because each man has his own values for the coins of language; not because he wishes to, but because the gulf between man and man remains unbridgable. There is no common denominator for A's thought-values and B's. The way in which words are seized upon and interpreted by each mind for itself is well brought out in an eloquent passage in Professor Raleigh's monograph on "Style." "The mind of man," he writes, "is peopled, like some silent city, with a sleeping company of reminiscences, associations, impressions, attitudes, emotions, to be awakened into fierce activity at the touch of words. By one way or another, with a fanfaronade of the marching trumpets, or stealthily, by noiseless passages

and dark posterns, the troop of suggestions enters the citadel, to do its work within. The procession of beautiful sounds that is a poem passes in through the main gate, and forthwith the by-ways resound to the hurry of ghostly feet, until the small company of adventurers is well-nigh lost and overwhelmed in that throng of insurgent spirits.”³³ Of course this fact that each man carries about his own dictionary with contents which never correspond with those of any of his fellows, is just what gives zest to life. But it does not make adjustment to common thought by means of a common vehicle of language less difficult. And if there are two languages current instead of one, there is room for a fierce meeting of cross-currents and a fierce struggle of cross-purposes.

All this points to the imperative need for a study of the language of a people whose homes are alongside ours and with whom we share a common sky and a common destiny. It points also to the desirability of a study of the language of those whose relation to ourselves is real though less direct. It should be noted that this is the most fundamental reason for the study of a language other than our own : understanding and adjustment. And when it is a living language there is the special advantage of quick returns. Every sentence, indeed, every word, we gain mastery over—save, of course, the dry bones of exceptions which have passed out of real life to prolong a fictitious existence in grammar books—is a real acquisition, a key which may open the door to someone’s good fellowship. A greeting, a title page, a word painted on a wall, in a living language is one with its whole life. We need not hesitate to begin a modern language with a pupil who has only one more term at school; assuming, of course, that we do begin with the language and not with its dry bones. But with lengthening school days we may hope for more. We may hope that our pupils will gather a few literary treasures, at all events, from the new language to put alongside of their own. Not necessarily for comparison, for each literature is unique, but to add to real wealth. And such an accretion is his who has, for example, caught the pathos and the charm of these lines of Alphonse Daudet :

³³ p. 10.

“ Tous deux [les vieux] me remerciaient d'un sourire ; et dans ces sourires fanés qui se penchaient vers moi, cherchant jusqu' au fond de mes yeux l'image de leur Maurice, moi, j'étais tout ému de là retrouver cette image, vague, voilée, presque insaisissable, comme si je voyais mon ami me sourire, très loin, dans un brouillard.”

Or the power and pathos of these lines of Heine :

“ Ein Reiter durch das Bergthal zieht
Im traurig stillen Trab :
«Ach ! zieh' ich jetzt wohl in Liebchens Arm,
Oder zieh' ich in's dunkle Grab?»
Die Bergstimm' Antwort gab :
«In's dunkle Grab !»

“ Und weiter reitet der Reitersmann,
Und seufzet schwer dazu :
«So zieh' ich denn hin in's Grab so früh,—
Wohlan, im Grab ist Ruh'!»
Die Stimme sprach dazu :
«Im Grab ist Ruh'!»

“ Dem Reitersmann eine Thräne rollt
Von der Wange kummervoll :
«Und ist nur im Grabe die Ruhe für mich,—
So ist mir im Grabe wohl.»
Die Stimm' erwidert hohl :
«Im Grabe wohl !» ”³⁴

§8. The classical languages, Latin and Greek, stand on a different footing. As the sources of inspiration on which most of the great authors in the Teutonic and Roman tongues have directly, or indirectly, drawn, their claim is unchallenged. For those whose good fortune it has been to be able to enter into real community of thought with the great masters, it is almost equal to the claim of religion. And there is no question as to the strength of the position of those who take their stand on models which for so many centuries have dominated literary activity, and on the medium which for such a long stretch of time was the depository of the records of civilisation. At the same time it must be recognised that they are in the position of men who look backward rather than forward. “ We must therefore admit,” writes Mr. Barnett, a strong protagonist, “ that the claims of Latin and Greek on the grounds of their established position become less pressing. For the theories of development by which we are all sensibly or insensibly affected weaken the hold of the past upon us, and direct our view forward rather

³⁴ Die Bergstimme.

than backward."³⁵ As a means of adjustment they must inevitably become less necessary as the world they mediate becomes more remote. It is true, of course, as we have already noted, that the masterpieces of literature and, to some extent, even the penetrative achievements of philosophy, can be taken out of their chronological setting and retain all their beauty and truth, in a way which is not possible with the achievements of history or science. They transcend time. Homer and Sophocles, Virgil and Cicero, Thucydides and Livy, Plato and Aristotle, will continue to exercise a formative influence on literary art and philosophic thought, when Roman and Greek history have ceased to have more than antiquarian interest. At the same time native and other modern literatures are increasing in content and in richness as the centuries pass and their claim is becoming more and more imperative; and the same thing is true of the progress of philosophy. The mere difficulty of adjustment must bring it about that as modern literature and philosophy loom larger the ancient lights will become sources of illumination and inspiration for a select and enthusiastic few. They will be those for whom the humanities offer a specific vocation.³⁶

Meanwhile the classicists seem to have themselves to blame for lost ground. There is no doubt that the difficulties of access to classical literature are great, but, carried out of the track by the fetish of formal discipline, those whose business it is to point the way have lost the literary substance in grasping at the linguistic shadow. They have spent so much time with the dry bones that the body and soul have, for the majority of their pupils, not come to life. Such at any rate is the trend of criticism. Dean Inge writes: "The advocates of the old classical education have been gallantly fighting a losing battle for over half a century; they are now preparing to accept inevitable defeat. But their cause is not lost, if they will face the situation fairly. It is only lost if they persist in identifying classical education with linguistic proficiency."³⁷ Again: "I am well aware of the loss which a great author necessarily suffers by translation; but I have no hesitation in saying that the average boy would learn far

³⁵ Op. cit., p. 203.

³⁶ See pp. 254, 256, 257.

³⁷ Cambridge Essays on Education, pp. 26, 27.

more of Greek literature, and would imbibe far more of the Greek spirit, by reading the whole of Herodotus, Thucydides the *Republic* of Plato, and some of the plays in good translations, than he now acquires by going through the classical mill at a public school. The classics, like almost all other literature, must be read in masses to be appreciated. Boys think them dull mainly because of the absurd way in which they are made to study them."³⁸ He will find many dissentients from his views on translations, but few would in these days disagree about the deadening effect of linguistic discipline. Bateson, writing on the place of science in education in the same volume, argues warmly in defence of Greek, but languages are to be "treated not as lessons but as vehicles of speech."³⁹ "What chance," he exclaims, "has a boy of enjoying an author when he knows him only as a task to be droned through, thirty lines at a time? Small blame to the pupil who never discovers that the great authors were men of like passions with ourselves, that the Homeric songs were made to be shouted at feasts to heroes full of drink and glory, that Herodotus is telling of wonders that his friends, and we too, want to hear, that in the tragedies we hear the voice of Sophocles dictating, choked with emotion and tears; that even Roman historians wrote because they had something to tell, and Cæsar, dull prosier that he is, composed the Commentaries not to provide us with style or grammatical curiosities, but as a record of extraordinary events."⁴⁰

§9. These are hammer blows, and we are not in a position to say whether the teaching of classics generally deserves them or not. But it is certain that also in the handling of modern language and literature the danger of separating form from content and focussing attention on it is a real one, and cannot be too strenuously combatted. Neither the writers of text books nor the teachers have as yet shaken themselves free of the linguistic tradition. Shakspeare and Racine are still too frequently degraded to the level of media for grammatical disquisitions and exercises. There is far less danger in prosody because literature is an aesthetic unity first, its logical coherence coming a long way after. Rhythm and

³⁸ Ibid p. 28.

³⁹ Ibid p. 143.

⁴⁰ Ibid p. 144.

metre, metaphor and apostrophe—these are flesh and blood, and the feeling for them brings us into immediate sympathy and communion with the working of the mind and soul of the master. But grammatical vivisection kills him. The better way is by composition: in verse—an art pupils attempt with avidity—and prose, by imitation of teacher and literary models, even, with careful going, by paraphrase. The question of treatment is, indeed, vital, and although details of method are outside the scope of this essay, we may, perhaps, profitably bring this chapter to an end with a note on the general principle which should be observed. We have insisted again and again that adjustment to literature as a key to the best thoughts and ideals which great authors have left us, that is, in a word, to civilisation in its highest form, is the aim. But there remains the question how, in general, we ought to think of, and try to bring about that adjustment. That it should be a double-edged process, active as well as passive, an organic interaction bringing about real growth and power, is merely another deduction from the theory of education developed throughout this essay. We find in literature not merely a source of the highest delight—it is that of course—but a stimulus which will evoke clearer thinking, a finer taste, and cleaner and saner moral convictions. And it will only do that if our handling of it is intelligently guided. In our search for a principle we cannot do better than turn to the great authors themselves; for what is characteristic of the truest message ought to bring out its counterpart in the reader who is, as best he can, trying to respond to it. Professor Raleigh says that sincerity is the quality universal in the civilising constraint of the noblest appeals of literature. "The most surprising characteristic," he writes, "of the right poetic diction . . . is its matchless sincerity."¹¹ Sincerity is then, what we want in the reader, and we may add, the speaker and writer. And if we keep that principle before us, as the lode-star of treatment, we shall not go far wrong, and detailed injunctions about method will all fall naturally into place.

That is why the critical attitude is dangerous. Boys and girls are not put before a masterpiece to criticise it, to attempt

¹¹ Style, p. 89

an evaluation of this or that element of its form and structure. They are there to gather what of its beauty and value they can take in, without any attempt, futile as it must be in the nature of things, to dissect its æsthetic unity. The honours graduate may try his analytic powers on this difficult task, because he should be old enough and wise enough to know that he is only trying for his own soul's sake and that the objective truth of the matter is more likely than not to evade him. "When all has been said there remains a residue capable of no formal explanation."⁴² We shall do well, then, to steer quite clear of this stumbling block of criticism when we are introducing young pupils to an author. They may be encouraged, of course, to say freely and sincerely what they like and to set the seal of their honest appreciation on characters, passages, scenes, and even phrases and words. There is no harm, indeed all good, in that, provided that honesty and sincerity ring out in their choice. But priggish criticism should be met by hammer-blows.

The real self must come out and reveal itself in broad daylight, frank and unashamed, in the literature and language lessons. Some pupils will dislike Shakspeare—they will be few—and revel in Tennyson. Well, we are not all built alike. But it will be found, on the whole and in the long run, that our pupils will endorse the judgment of posterity. They will hang on, of themselves, to the best and—what is, after all, the educational crux—will make the best of themselves in doing so. Only we must let their real selves speak.

⁴² Ibid p. 116.

BOOK III
THE WORLD OF MORALITY

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THE WORLD OF MORALITY
CHAPTER I
PRELIMINARIES

§1. We come now to the moral order or continuum and here again it seems necessary to begin by stating precisely what we mean, and, particularly, what justification there is for the use of the latter term. The physical world as polarised to the individual consciousness, has its unity of space and time; the social order existent in the individual consciousness, has the unity conferred by common instincts, customs, language and laws; and historical continuity as well. The first has the aspects of materiality and extension, and these give it an advantage, for education at any rate, over the substance of the second, which, in its spirituality, seems more attenuated. Both, however, have a given objective coherence. Can we use the same term with propriety when we come to morality? One answer might well be that there is no point in distinguishing a third: that the social organism contains the moral order; and that the two represent different aspects of the same piece of reality, looked at as an actual historical fact and as a sphere of values and ideals respectively. This, however, does not seem to be sufficient from the point of view of the theory of education. We can readily imagine an individual in whose consciousness the social order might, so to say, shine out with distinctness and even brilliance, i.e., might be intellectually and even aesthetically appreciated, without the emergence of a correlative and dependent spectrum of moral obligations and ideals. And we may say that the supreme task of education is to raise the intensity of the latter so that it becomes the illumination which floods and pervades the whole of life.

For educational theory, then, it seems desirable to deal

with the moral order separately, even if the process is an abstraction from the concrete whole of experience. We have still to show that the term continuum is appropriate. Sufficient ground for it seems to lie in the fact that every act of life is pregnant, if not with moral purpose, at least with moral consequence direct or indirect, immediate or remote. Support for this statement may be found in the following extract from Bergson's Creative Evolution taken together with one from Mackenzie's Manual of Ethics. They represent the combined testimony of philosophy and ethics. Bergson says: "Our duration is not merely one instant replacing another; if it were, there would never be anything but the present—no prolonging of the past into the actual, no evolution, no concrete duration. Duration is the continuous progress of the past which gnaws into the future and which swells as it advances. And as the past grows without ceasing, so also there is no limit to its preservation. . . . In its entirety, probably, it follows us at every instant; all that we have felt, thought and willed from our earliest infancy is there, leaning over the present which is about to join it, pressing against the portals of consciousness."¹ Here we have the doctrine of psychical continuity, and the necessary corollary is the factorial potentiality, so to call it, of all past experience in a new act. Mackenzie says: "It is only in a somewhat strained sense that the judgment can be said to be passed either on the intention or on the motive alone. The truth seems to be rather that the fully developed moral judgment is always pronounced, directly or indirectly, on the *character* of the agent."² If these psychological and ethical pronouncements are sound, and they would both be generally accepted, we are justified in saying that every act of life is pregnant with moral consequence. And this being so it is desirable for educational purposes to keep distinct the idea of this third continuum, the moral order.

We must now attempt to justify the use of the word *creation* in connection with the moral order, which has been deliberately chosen in contrast with *exploration* of the physical and *discovery* of the social order; and the call is the more imperative because we have described it as the supreme

¹ Creative Evolution, pp. 4, 5.

² Manual of Ethics, p. 137.

task of education. And in so describing it we are deliberately leaving out of account the illumination which it must receive from the light of religious revelation, if it is to equal and transcend in constraining power the physical and the social orders. That aspect of it will be touched on later. Here we have to try and show that the weaving of the thoughts, purposes, and acts of life, however small or however great, into a moral order, can only be the product of a process of continuous creation by each individual for himself.

What we mean is just the moral freedom of the individual looked at from the standpoint of education. We accept the Kantian doctrine that the limitations, the bounds and barriers, set to the pure reason in its exploration of the world of nature (whether or not they may be removed by the idealism of post-Kantian philosophy) have no counterpart in the sphere of practical reason, of morality. In this sphere man is free. But his very freedom means just this, that there is no necessary constraint such as is exercised by the physical and the social environment; and that, unless by his own creative activity he spins and weaves a moral continuum, it will be non-existent for him. The imperative of duty, the ideal of happiness, of ultimate good, of perfection, will remain empty forms and categories, unless and until the individual by his own creative acts, by a continuous process of creation, gives them matter and content. The physical universe and the social universe he cannot escape; but the moral universe, the moral order, will be the product of his own creation. Here individualism is final and unbridgable. No man can save the soul of his brother. Each must spin the moral web anew. Neither heredity nor environment can avail to diminish this obligation. That is, as it seems to us, the inevitable price each must pay for the moral freedom which Kant claimed for him.

It is to be understood that our point of view is that of education, and that, when we say that individualism is final and unbridgable and that no man can save his brother, we mean that each individual must himself constitute and for ever be renewing the moral continuum or order. It is made real for him just by the nod, fiat, affirmation, or volition—however the act may be described—of the individual self. This does not mean that it may not, from a more fundamental

point of view, be described as the adoption of the moral order or continuum which the social organism reflects, or rather adumbrates; or as a recognition of that order as existent within himself because he shares with others identity of rationality. That raises a metaphysical rather than an educational question, and it is one which the student must decide for himself. He must think out for himself how much the conception of a social order means. Sometimes it seems to be carried to a point from which the transition to at least an attenuation of individual responsibility is easy. Caird, for example, in the course of a critical examination of the Kantian position that while empirically the conception of a social moral order may be taken as true, rationally morality is individual, asks : "Are we unable to give of our best to others or to receive of their best from them? Are men shut up in themselves, so that they must each fight his own battle alone, like the separate duels of the amphitheatre; and are there no common charges and retreats, common victories and defeats, as in regular warfare? Does freedom necessarily mean isolation, and can we not receive help from each other in the highest things?"³

The answer seems to be, at any rate from the educational point of view, that the Kantian doctrine of moral individualism, as a corollary of moral freedom, is so far right that an individual is not really a member of a moral social order until he has, so to say, entered it by voluntary enlistment. In this case of the moral continuum its reality for the individual is its affirmation, and this is just what distinguishes it from the physical continuum, and the social continuum also, as a psychical fact. Until the fiat has been uttered with the whole weight of the individual behind it, the moral continuum does not exist for him. It does not appear to be the distinction between anoetic and noetic consciousness but the difference between non-existence and existence. We may take the environment at its best, as Plato conceived it in the ideal social organism. He asks : "Ought we not, on the contrary, to seek out artists of another stamp, who by the power of genius can trace out the nature of the fair and graceful, that our young men, dwelling as it were in a healthy region, may drink in good from every quarter, whence any emanation

³ The Critical Philosophy of Kant, Vol. II, p. 397.

from noble works may strike upon their eye or their ear, like a gale wafting health from salubrious lands, and win them imperceptibly from their earliest childhood into resemblance, love, and harmony with the true beauty of reason?"⁴ Such an environment would assuredly be the best condition for the development of reason, of the rational and ideal self, but that development would depend on the fiat of the individual, reaffirmed daily and even hourly. The social organism as a moral order is there about us like space and history, but it seems to differ from them just in this that its existence and reality for each individual depends on free affirmation. Muirhead quotes Dewey as saying "that (1) the fulfilment of the duties of one's station, or as he calls it, 'adjustment to environment,' can be taken as a moral idea, only on condition that it means 'willing the maintenance and development of moral surroundings as one's end'; and (2) the function that is thus performed serves at once to define and to unite. It makes a man '*a distinct* social member at the same time that it makes him a *member*. . . . Individuality means, not separation, but defined position in a whole."⁵ This "willing the maintenance and development of moral surroundings as one's own end" seems to be exactly what we are trying to emphasise as the creation of the moral continuum.

Let us repeat again the fact that it is the educational standpoint we are concerned about. The following quotation from Caird we should accept unreservedly as a statement of ethical and philosophical truth: "Moral freedom rests on the consciousness that the law to which we are subjected is no foreign yoke, but our *own* law—the law that we became conscious of by the same process by which we became conscious of ourselves as subjects; and, therefore, the fact that it comes to us first as a social law, revealing itself in an external order of common life, in no way affects our freedom under it."⁶ Educationally, however, there is something else to note, a further moment in the genesis of a moral order. It may come to us, reveal itself, through the mediation of the social order, but its essence lies in its being caught up and

⁴ The Republic, Davies and Vaughan's Translation, pp. 96, 97.

⁵ Elements of Ethics, p. 175.

⁶ Op. cit., Vol. II, p. 400.

affirmed by the individual. Just as the conception of ideo-motor action as an explanation of the genesis of volition seems to lack something,⁷ at any rate from the point of view of education, so does the idea of an external moral order revealing itself to the individual. We want something corresponding to the rite of confirmation admitting to membership of a church. The moral law doesn't just come to us or reveal itself in the same way as the idea, say, of a league of nations. It does not exist for the individual until he has affirmed it. The physical order stands over against us, even though, when we reflect, we see that each individual polarises it to himself. We are under its constraint as a fact of existence. We cannot escape it. So it is with the social order, although, as we have urged, its spiritual texture makes the constraint lighter. We cannot escape it also. But the moral order is not polarised to each of us. The words are meaningless with regard to it. There is nothing static about it; it is not independent of us. It comes into being each time the individual affirms it, and the sequence of impulses and thoughts—mere conscious process—thereby becomes moral process. Moreover it remains in being just so long as affirmation, like the set of a rudder, is maintained. How easily it goes out of being, and our life falls back into mere conscious process, following the current of habit, association, and interest, but not obeying the rudder of morality, everyone knows. The greatest task of education, as it is the most difficult, is to develop in the individual the power and the impulse to weave as much of his life as possible into a moral fabric. The moral continuum must be ceaselessly created. "The moral endeavour of man takes the form, not of isolated fancies about right and wrong, not of attempts to frame a morality for himself, not of efforts to bring into being some praiseworthy ideal never realised; but the form of *sustaining and furthering the moral world of which he is a member.*"⁸

§2. We have now to consider how this process of creation can begin. The student will have learnt from ethics that what moral judgment is passed upon is (a) conduct which

⁷ Cf. Stout, Analytic Psychology, Vol. I, pp. 131, 132 (Reference by Bosanquet in The Psychology of the Moral Self, p. 78).

⁸ Dewey, Outlines of Ethics, Pt. II, quoted by Mackenzie, op. cit., p. 329. The italics are mine.

means (b) volition, and implies (c) character from which (d) the motive of the individual act issues and to which it is organically related.⁹ And he will do well to consider each of these aspects of the object of the moral judgment separately so that he may fully realise what the psychological implications are. From our immediate point of view synthesis rather than analysis is what is essential. We want to know how the moral continuum can be created, and one essential factor, the fundamental one, will appear if the element of identity in each of the four aspects named is realised. It is the element of end or purpose. Conduct is action, behaviour, directed towards an end; volition is the nod of affirmation by which consciousness accepts or decides upon an end; character is the relative equilibrium of mental powers—cognitive, affective, and conative—which has not been reached until ends can be discriminated, weighed, and one or other adopted; and the motive on its cognitive side is an end.

Now it is just this end, this teleological feature and factor, which makes a moral continuum or fabric possible. We may realise this by contrasting the ways other continua are formed. The contrast has been made incidentally above, but may well be repeated, for it is vital for a theory of education to know how a moral continuum as contrasted with others, comes into being. The physical continuum is constituted by space, whether of subjective or objective origin. The mental continuum is constituted by time, whether a form or the real duration of Bergson. The social continuum being spiritual, or mental in texture, is also constituted by time, being indeed a stratum of the mental continuum. The moral continuum is constituted neither by space nor by time (though duration is necessary to its genesis, we should hold, as to that of every other mental product) but by its teleological character. It comes into being when, and only when, an end is consciously adopted as having moral worth or value, and an act or a series of acts is voluntarily undertaken as means organically related to the end and thus becomes shot through, so to say, by the light issuing from the end. When that volitional step has been taken we can say the moral continuum has been created. And its maintenance in existence will depend on the maintenance

⁹ See Muirhead, op. cit., p. 64.

in consciousness of the idea of an end, operating as a final cause, and weaving into the moral texture or fabric those thoughts, impulses, and acts which further it, and rejecting those which hinder it. It will disappear from consciousness from time to time, as indeed the physical and social continua may do. Its re-emergence on the surface of consciousness will depend on one factor, and one alone, namely, the re-emergence of the end as a constraining force.

If this is sound theory, one controversial point will have been disposed of, so far as moral education is concerned. We refer to Kant's categorical imperative, or any imperative which rests on an empty edict, that frequently assigned to conscience or intuition, for example. They will be considered more fully later and we shall endeavour to assign their place and value for moral education. But we seem justified in deciding one vital point here and now. If acts, impulses, and thoughts can only be woven into the fabric of a moral continuum by virtue of an end, a teleological factor, a final cause; and if morality consists, as we are maintaining, in the creation of such a continuum not merely cognised, but felt and lived; then we shall have settled one vital point of principle and relegated an empty edict, whether of external law, or internal imperative, to its proper place of subordination, of derived and secondary value. Actually and logically, the categories of law and duty are derivative from the categories of end and value. Here educational theory and ethical theory are at one.

There is a deviation of educational theory from philosophical theory, pertinent to the point we are discussing, which may appropriately be referred to here. In an extremely penetrating analysis of the conception of teleology in a philosophical connection, as a factor in the constitution of reality, Bosanquet¹⁰ reaches the conclusion that if the whole universe, nature and mind, is conceived under the idea of individuality, wholeness or completeness, then there is really no room for the idea of teleology. And particularly that the distinction of ends and means, the teleology of finite consciousness—the consciousness, that is, of the individual man which we are considering or the consciousness of the organic, e.g. plant, world, if such there be—can have no

¹⁰ Principle of Individuality and Value, Chapter IV.

meaning, or at any rate can have no operative agency in the constitution of reality. That may be so, and, indeed, appears to us to be so. The value and worth of the whole must replace any teleological idea in this ultimate philosophical analysis. It might seem to follow that we are wrong in supposing that the creation of the moral continuum in the individual depends on the volitional adoption of an end as morally valuable. It might be that the moral continuum would be created, not by a final cause, an end consciously adopted by the individual, but would arise because he is part of the concrete universal of reality. Even if that be the ultimate truth, there seems to be this much of truth in the theory of the progressive development of the individual that he must claim or justify his participation in the whole by the continual creation of the moral continuum in the way we have indicated. Thus for a theory of education there seems to be no other way than the way of finite teleology.

§3. We may now try to indicate what this moral order, this third world which each individual must continuously create, consists of. So far we have only indicated the form of it, a continuum of consciousness and life held together teleologically by an end or purpose consciously adopted, that is taken up into the self by volition and thus operating as a final cause. We have not, however, indicated the content or substance of it. It is variously described as the true self, the ideal self, the rational self, and the social self.¹¹ Each of these terms brings out the point that the end is something relative to the self, a form of self-realisation. It is not something external and detached; it is something which man has within him, by virtue of his nature, his manhood. It is potentially in all who are normally constituted, some would say as a product of evolution, others as the divine nature and potential destiny of man. Whether it will come to actuality, i.e., to self-realisation, or not, will depend largely on education. One term, the rational self, brings out the point that it is the realisation of one particular potentiality of man, his rational nature; and gives us by inference the further point that the realisation of the rational self will involve the subordination of other elements of the self, e.g., the

¹¹ See Mackenzie, op. cit., pp. 248-258, 273-290. Also Muirhead, op. cit., pp. 163-182.

self of bodily appetites. Another term, the social self, carries us a step further by indicating that it is in the social order that self-realisation must come into being; and inferentially again we may advance to the point that it means self-sacrifice, i.e., the resolution of the opposition of egoism and altruism in the higher unity of self-realisation.¹² "In general a man can only receive his highest development in a congenial state or family, among friends or fellow-workers."¹³

These various elements of self-realisation are sometimes held together in the single concept of perfection.¹⁴ This is, perhaps, not concrete enough for our purpose, which is to find how the moral order or continuum can be continuously created. If we want a single comprehensive conception the best seems to be that of individuality in the sense of a whole, a self-consistent unity, a concrete universal, as Dr. Bosanquet has developed it in the Gifford lectures contained in the volume entitled "*The Principle of Individuality and Value*." According to that conception the individual will be creating the moral continuum in proportion as he takes up as ends element after element of the moral order immanent in the universe, and realises his unity with nature and man. It is difficult to give any satisfactory summary of this ethical and metaphysical conception. Perhaps the following extract will give a clue to his meaning.¹⁵ "The individual, then, does not attain the maximum of individuality in his exclusive self when he feels himself repellent against others. And if personality is taken in the strict sense of the character of being a subject of rights and duties among other similar subjects, then personality itself is only possible in virtue of an individuality which already transcends it. For there can be no system of rights and duties except in virtue of an identity of wills in which rights and duties become a mere machinery of daily life. You cannot coerce the individual and organise his life within a system of "persons" except on the ground of a consciousness on his part which at bottom desires to be coerced and to be organised. So individuality, the principle of reality and the consistent whole, takes us

¹² Cf. Bosanquet, *Psychology of the Moral Self*, pp. 89-98.

¹³ Jowett, *Republic of Plato*, p. xci.

¹⁴ Cf. Mackenzie, *op. cit.*, Book II, Chap. V.

¹⁵ pp. 270, 271.

on beyond personality in the strict sense, beyond the consciousness of self which is mediated by an opposing not-self, into the region where we go out of the self and into it by the same movement, in the quasi-religion of social unity, in knowledge, art, and in religion proper. And in all these experiences, as the repellent self-consciousness diminishes, and the sense of unity with the world and with man becomes pre-eminent—in all these individuality is strengthened, and the self, though less in opposition to a not-self, is more itself, and is more at home. And when freedom and spontaneity reach their climax in religion the self no longer insists on its exclusive claim, and the whole being goes out together into the service which is perfect freedom."

We have here, then, the conception of the individual feeling out beyond himself and appropriating moral ends from the universe of man and nature which is more than himself and which yet as man he shares, and so for ever moving on towards an individuality, which, as a balanced whole in which the parts are, so to say, dovetailed into moral consistency, is more than personality. Yet though personality is transcended it is not whittled down. There is "no suggestion that selfhood is a trivial or unreal thing."¹⁶ Indeed on it rests the responsibility of "sustaining and furthering the moral world," to quote Prof. Dewey again; or, as we should put it, of continuously creating it by volition, which is fulfilled in behaviour and conduct.

It is desirable to carry our inquiry into the adjustment of the individual to the third world, the moral order, a little further. Our point of view is that he must create it and sustain it by continual acts of creation, i.e., by behaviour issuing from volition illumined by moral purpose. There is, however, a sense in which it creates him. In other words the act of continuous creation is reciprocal, a sort of two-edged process which reveals the relation of the individual to the moral order in a new light and one vitally important for a theory of education. It is developed by Dr. Bosanquet in his work "The Value and Destiny of the Individual," the companion volume to the one to which reference has just been made.¹⁷

¹⁶ Principle of Individuality and Value, p. 289.

¹⁷ See especially Chapters I-IV.

The first idea which Dr. Bosanquet is concerned to establish is that the separate existence of individual souls is a fact. It is conditioned by their existence in separate bodies, and their distinctive feelings, and is, perhaps, mainly due to the more or less permanent coenaesthesia and the somatic resonance which, whether we go all the way with James or not, is an important factor in giving a distinctive quality to our individual emotions. But this separate existence must not hide the identity which individual souls exhibit and which, so far as it is found in the moral continuum of ideals and purposes with which we are here concerned, is at once a product and a reflex of the moral environment into which we are born and which may be summed up in the concept of civilisation.

The moral order sustains them while they sustain it. It is a difficult idea to lay hold of as a living truth, so wedded are we by experience and by common philosophic theory to the opposite idea of individualism. Nevertheless it is a fundamental conception which seems to us to be vital if we are to realise, e.g., the interaction of an individual pupil and a school as a moral order or environment through which moral adjustment advances and develops; and the interaction, both during and after schooldays, of the individual and that continuum of greater circumference which Graham Wallas has called The Great Society; this being understood not merely as a human fabric, but as a fabric in which, by means of habits, customs, and operative ideals as well as by laws and institutions, a moral order becomes articulate.

Dr. Bosanquet illustrates what he means by this community in which the limits of the individual soul are transcended, in the following way. "If minds were visible," he says, "as bodies are, the writer has argued elsewhere, they would not look like similar repeated units, but each would rather appear as a member of a mechanism pointing beyond itself and unintelligible apart from others—one like a wheel, another like a piston, and a third, perhaps, like steam. Here, then . . . we find a thorough-going identity of diverse selves as parts of a single whole; and that in rational beings, with a more or less thinking awareness of the whole to which they contribute."¹⁸ The whole includes,

¹⁸ *The Value and Destiny of the Individual*, p. 50.

of course, the moral order or continuum which we are considering. In Dr. Bosanquet's thought it is more; it is the Absolute with which the religious consciousness is ultimately identified; but the greater includes the less. Here then we are face to face with what we accept as a vital truth pregnant with educational import.

Let us, therefore, try to get a firm hold of it. We may approach this idea of our relation to the moral order through that of our relation to the physical order of nature. In the moulding of souls—as Dr. Bosanquet finely describes it, following Keats who in one of his letters describes the world as “The vale of Soul-making”¹⁹—both orders operate. In the cognitive and emotional experience which natural scenery creates there is a felt stress or tension towards a whole, transcending the immediate presentation. Tennyson's “flower in the crannied wall” is the focus of the universe. So Browning—

“ All the breath and the bloom of the year in the bag of one
bee :
All the wonder and wealth of the mine in the heart of one
gem :
In the core of one pearl all the shade and the shine of the
sea : ”²⁰

And again—

“ And God's own profound
Was above me, and round me the mountains,
And under, the sea,
And within me my heart to bear witness
What was and shall be.”²¹

Here is clear evidence of that tension which carries the poet beyond the mere natural fact. It is, for him, a fact and more. The tension of imagination or inspiration—whatever we may choose to call it—carries him beyond it. He may remain within the circumference of the world of nature, and, as in the first Browning quotation, or in the Tennyson reference, find the significance of the physical whole revealed in the single fact. The pearl is the focus, the embodiment of the shade and the shine of the sea. Thought, whether we call it imagination or inspiration, transcends its immediate object and the act of transcendence is the bringing

¹⁹ Ibid, p. 64.

²⁰ *Summum Bonum*.

²¹ *The Englishman in Italy*.

of the whole to bear upon the part. It is a unifying act. And by the same impulse to unification the thought may break through the circumference of the world of nature, and, as is illustrated by the second Browning quotation, link up with it the world of speculation : " what was and shall be." Nor is this tension the privilege and prerogative of the poet. He is differentiated from the man in the street, or the boy in the school chapel, not by the fact of tension, but by the fact of articulateness. The tension is normal in normal human beings. It is, perhaps, the *differentia*, priceless and immortal, of humanity. The stress beyond the single fact to some sort of whole, whether within its own circumference or beyond it, is common experience. A boy whose interest in the wheels of a locomotive, carries him on to the pistons, the boiler, and the coal in the tender, is an instance of stress within the circumference ; a girl plucking a rose and running with it under the stress of social impulse to her mother, is an instance of breaking through the circumference. And within the adolescent or adult consciousness the tension beyond the given fact is constant and imperative. Individuals differ, of course, but if tension beyond the given, the gathering in, from near and far, of rays of illumination, is the *differentia* of the poetic impulse, then we are all, young and old, poets.

The other day a young girl—she could not have been more than eight years of age—said to me, quite spontaneously, that the tramcars must be very glad to be out again. It was the morning after the settlement of a strike of tramwaymen, and her young mind had leapt from the car humming up the rails to the human and æsthetic sphere of delight. And the tension by which a child or an adult is carried into the sphere which we call the moral order is no less real, natural, and normal. Moreover it is reinforced, as Dr. Bosanquet points out, by social suggestion and by language—a social institution—operating sometimes after the manner which we describe as natural selection or as educative, i.e., teleological, purpose.

What we must grasp, then, is this notion of a natural world and a moral world or order, both calling out, evoking, or eliciting, this natural tension which carries the individual beyond given facts to the whole or order to which they belong, or beyond the order, be it natural or spiritual. And

since we all experience the tension we so far share this identity or community. Whether we follow to the end the thinkers who, like Dr. Bosanquet, find in this tension evidence of real participation by all in the spiritual essence of the universe; or whether we stop short with individualism at the thought that, though we all experience this social and spiritual tension, it does not affect our individual separateness and self-containedness—that is a question of metaphysical alternatives between which we must choose for ourselves. That the tension from part to whole, natural or social and moral, exists, there seems to be no question.

When we look at this tension psychologically, i.e., as a conscious state or phenomenon, we have what James called the fringe or halo which links up a presentation with our whole mental content. In an eloquent passage in which he is concerned to point out the vital significance of this fringe or halo for the conscious life, he says: "Every definite image in the mind is steeped and dyed in the free water that flows round it. With it goes the sense of its relations, new and remote, the dying echo of whence it came to us, the dawning sense of whither it is to lead. The significance, the value of the image, is all in this halo or penumbra that surrounds and escorts it—or rather that is fused into one with it and has become bone of its bone and flesh of its flesh."²² The psychology we must accept; the philosophical implication is a matter for reflection and deliberate choice. We may accept the tension felt in the fringe as evidence of a whole or absolute in which we participate, interpreting the whole statically as Bosanquet, for example, following the doctrine traceable through Plato, Hegel, and Green, does; or dynamically as Bergson does; or we may accept it as evidence of identity or similarity of experience in individuals who nevertheless preserve their separateness and independence as, e.g., in the thought of Leibnitz,²³ Kant,²⁴ and James.²⁵

§4. It will be well to summarise at this point the conclusions we have reached with regard to this third world,

²² James, *Principles of Psychology*, Vol. I, p. 255.

²³ See Ueberweg, *History of Philosophy*, Vol. II, pp. 109, 110; and Schwegler, *History of Philosophy*, p. 195.

²⁴ Cf. Caird, *The Critical Philosophy of Kant*, Vol. III, pp. 223-226.

²⁵ A Pluralistic Universe, *passim*.

the moral order. It is a continuum or whole like the first or physical world, and the second or social world. Its continuity and unity are due to the fact that every thought and act of our conscious existence has direct or indirect moral value. The whole of our conscious existence has moral quality and may be judged by an impartial observer to be directly or indirectly a positive or negative contribution to a moral life. Just as we live in a physical world and a social world, so we live in a moral world and every conscious act of ours may be said to be adjusted well or ill to the moral order as well as to the physical and the social environment. The moral continuum differs from the other two, however, in this vital respect : it exists for each individual so far as he creates it constantly by free volition. Each individual must sustain it, make it, for himself ; otherwise it is not his. It is a world he does not inhabit, and not only does not inhabit but helps to destroy. It is kept alive and existent by being constantly taken up, chosen, as a world to inhabit, a life to live, by all. No normal conscious being can cut himself adrift from it. He sustains and maintains it by free creation of will or he helps to destroy it, also by volitional choice. "The rational being is subjected to a law which is universal *but which nevertheless he himself enacts.*"²⁶ The way in which he enacts or creates the moral order is by the choice of ends which are consistent with its existence, i.e., are morally valuable in the sense that they sustain and enhance it as a world or life; just as healthy living sustains and promotes the physical order and the discharge of social duties promotes the welfare of the social order. In so creating and sustaining it he is realising the self, the best self, the rational and social self, the ideal self. In realising this ideal self he is going beyond his finite self and fulfilling his function as a part of the great whole, the universe, the concrete universal. By this realisation of his ideal self, by creative acts which sustain the moral order, he is giving effect to the tension towards the infinite which is the differentia of human consciousness. This tension is what James has distinguished as the marginal function of presentations.

§5. We have pointed out what the creation of the moral

²⁶ Caird, op. cit., Vol. II, p. 224. (Italics mine.)

continuum means in general terms. Our point of view, thus far, has been, we may fairly say, that of ethics and philosophy combined, though psychological references have here and there seemed appropriate. This seems to be sound procedure for a theory of education. It seems wise first to take a broad synthetic survey of the ground more especially since we assume knowledge of the outlines of philosophy and the rudiments of psychology and ethics as an indispensable condition of any superstructure of educational theory. We have, however, now reached a point at which it is desirable to look at the conclusions we have reached analytically. Our attitude in the remainder of this chapter will thus be that of psychology. We may put our immediate problem in this way. What does the creation of the moral continuum mean in psychological terms? Of what elements or constituents of conscious process does it consist? The answer to these questions is involved in the treatment of the subject we have so far followed. Our present purpose is to extricate it psychologically.

In the first place cognition is involved. If the world or continuum is teleologically constituted, if thoughts and acts become linked together as parts of a moral order through the operative agency of an end or final cause, which may be said at once to throw its light backward and to direct conscious process forward to itself as a focus, then cognition or apprehension of that end is a factor involved. So far we accept the Socratic dictum that virtue is knowledge and so far we reject, as has been already noted, the Kantian dictum of the categorical imperative of practical reason. The imperative which is operative in the creation of the moral continuum in consciousness is not categorical but conditional, and the condition is awareness, cognition, or apprehension of some end of ethical value. Kant himself moved some way onward from his first formulation of the moral law as what Bradley characterised as "Duty for Duty's sake,"²⁷ to the third formulation where he develops the idea of humanity as a kingdom of ends. But while the grandeur of Kant's moral theory remains unaffected by destructive criticism, it is generally accepted now that an empty imperative of "Duty for Duty's sake" must be filled out by the conception of an imperative

²⁷ See Note on Kant in Mackenzie's Manual of Ethics, p. 203.

constraint to realise an end of moral value. Cognition of an end is thus, we may say without hesitation, the first element of conscious moral process by which the continuum is created. It follows that morality cannot be said to begin until there is awareness of a teleological character.

What sort of cognition we may now ask? We have just used the word awareness and intentionally; for it seems that as soon as this teleological awareness or apprehension comes into being, we are justified in speaking of the birth of the moral continuum. We may quote a passage from Caird where he is making the point that what we have called the birth of the moral continuum is conditioned by the fact that man is a member of a community, a social order as distinguished from a moral order. He says: "This consciousness [our moral continuum], no doubt, is very imperfectly developed at first. In purely savage life, so imperfect are the forms of such union, that it may even be denied to have any actual realisation at all. The consciousness of a unity which is beyond the caprice of individuals, and the consequent reverence for a law or will above their own, has not yet separated itself from the submission of terror to a superior force. It shows itself not so much in the achievement [our creation] of a moral order as in the restless discontent which follows caprice and slavery as its shadow, and which makes the savage life so much worse than the life of animals, just because it contains the germ of something better. But still, it is by the secret working of this idea of good which goes along with self-consciousness that gradually out of the chaos of conflicting self-wills there arises some kind of elementary social order, which can furnish the mediation necessary to the development of a distinct moral consciousness. For we must remember always that a moral consciousness does not spring from our minds full blown and complete, without any fertilisation of them by experience."²⁸

Three points may be distinguished in this extract. The first is the one we wish to make, namely, that moral consciousness may be said to begin to exist when there is cognition of a "unity beyond the caprice of individuals," or perhaps the term recognition would not be out of place, for in the "restless discontent" we should be justified in dis-

²⁸ Op. cit., Vol. II, p. 233.

tinguishing a cognitive element, though ancient.²⁹ The second is the fact that the second world, the social order, mediates the cognition or recognition of the third world, the moral order. Bosanquet has suggested³⁰ that we might get the germ of moral consciousness without mediation by the social order, but all agree that this order is mainly, if not entirely, instrumental in its genesis. The third is the close relation of the genesis of the moral continuum to the development of self-consciousness. Our point of view is that that genesis takes place just when the self adopts an end and thus creates a moral continuum by the linking up of a thought or purpose with it.

The quotation also brings out the nature of the cognition of an end by which the moral continuum comes into being. In the consciousness of the savage it would clearly be of the vaguest kind, something in the nature of the faintest halo or penumbra surrounding an act or purpose. Yet out of this vague consciousness of something better or higher may be developed the whole of the body of morality and subject-matter of ethics by differentiation and development within the continuum. The moral continuum on its cognitive side may thus attain to varying degrees of articulateness between the extremes of mere nebulous awareness of something bigger and better and higher such as Dr. Caird indicates in the experience of the savage, and a clearly differentiated moral order or content within which all the activities of life may find their place and purpose. And the progress from nebulosity to complete articulateness is dependent on moral education. It is helpful to think of this progress as comparable with the advance made by that exploration of the physical continuum we have endeavoured to describe in the first part of this essay. There we noted how from the first whole or continuum of physical reality in which the self is not clearly distinguished from its environment, the world of discrete things emerged, to be followed by their re-union in the realm of law, and consummated in the conception of a system or concrete universal in which the functioning of every physical component finds its explanation. There is certainly no such necessary coherence in the scheme of moral progress because

²⁹ Cf. Stout, *Analytic Psychology*, Vol. I, pp. 50, 51.

³⁰ *Psychology of the Moral Self*, p. 87.

of the absence of such constraint as is exercised by the physical environment. Progress in the moral order is conditioned, as has so often been repeated, by the necessity for individual creation. But it is just this responsibility which is the correlate of human freedom. Potentiality for the same coherence in the moral continuum exists, however, and moral education is just the conversion of this potentiality into actuality. The moments of awareness of a higher end and aim have to be caught up and linked together into a continuum of purpose just as the discrete "things" of the physical world have to be woven together in the texture of law. And as the abstract texture of physical law must ultimately be replaced, so to say, in the concrete mosaic of physical system, so the moral continuum of the relations of separate actions and activities to moral ends must culminate in a whole life which sustains the moral order of the world.

Following the method of analysis and abstraction appropriate to psychological investigation, we have so far referred to the moral continuum on its cognitive side as something known, realised, apperceived. Like all conscious experience however it has aesthetic quality. We can readily understand that in the fringe of conscious process which mediated awareness of something higher and better in the mind of Dr. Caird's savage there was a glow of feeling kindled by the vague consciousness of rational purpose which would transform his "restless discontent" into something out of which moral fervour might ultimately emerge. For we know by experience what an uplift accompanies the consciousness of some contribution to the ethos of a society, e.g., a school. Of course there may be awareness of the call of the school without the glow which is the life of purpose; but this is not the normal case and is probably ultimately to be attributed to faulty or short-sighted education.

We have to add that the creation of the moral continuum involves conation in the restricted sense of an act of will or volition. In a wider sense conation is an aspect of all cognition, being indeed the equivalent of attention.³¹ But the creation of the moral continuum involves more than mere

³¹ See the exhaustive analysis in Stout's *Analytic Psychology*, Vol. I, Book I, Chap. VI, and Book II, Chaps. I-III, and especially pp. 122-132.

attention to a moral end. Such attention would create it as conscious process and conation would be involved in maintaining it as such within experience. But virtue is not knowledge though maintained by conation. There must be a fiat of the will by which the end is taken up into organic relation with the self and becomes an object to be striven for. Then the moral continuum is created and gains objectivity, i.e., real existence in the third world of a moral order as real and objective as the physical world itself. We may seem to be labouring this point unduly, but it is vital. The third world of moral ideas can only be sustained by these acts of volitional creation. Cognition is necessary to define it, feeling to give it constraining power, and volition to bring it into real effective being. "In this world of content [our third world] the work of thinking will, we have in an external and factual form the body and substance of thinking will itself. . . . This creation of a world is the fundamental proof and example of the power of will."³² And the greatest task of education is to concentrate thought, feeling and will on its creation.

§6. To return now from the abstract to the concrete, from analysis to synthesis, it appears to us that in what we have called the creation of the moral continuum we have the co-operation of the three irreducible factors of mind or consciousness cognition, feeling, and volition; and their blending in the creative act is just what we mean by self-realisation. On to the classic battleground of origins we do not propose to venture. The protagonist of the view that ideas, i.e., cognition, are both logically and temporarily prior to volition, and that out of the opposition of apperceptive masses will emerges in the triumph of one over the other, is Herbart; while Kant is the champion of the superiority, in respect of freedom at all events, of will in the form of Practical Reason. Ueberweg, summarising the Herbartian view, says "Freedom of the will, in psychology, is the assured supremacy of the strongest masses of ideas over single affections or impressions. Kant's doctrine of 'transcendental freedom' is false."³³ The opposition seems irreconcilable. The student with a realistic bent will probably follow Herbart while the idealistic will assuredly be a disciple of Kant.

³² Bosanquet, *The Value and Destiny of the Individual*, p. 113.

³³ History of Philosophy, Vol. II, p. 279.

Professor Adams' lucid examination³⁴ of the Herbartian position in his great work on "The Evolution of Educational Theory" will be found very helpful for teachers seeking guidance for ideas and practice. He may be cited in support of the view outlined above that the form of self-realisation involved in sustaining the moral order implies the three irreducible factors we have named. We may, indeed, oscillate between the Herbartian and the Kantian position, now laying stress on content, on ideas, as the peg or nucleus about which continuity and unity develop; now laying it on will which fixes the peg or nucleus and brands it with the personal or individual mark. It does not seem to us that anything is gained, from our point of view, that of the theory of education, by trying to prove the priority of origin or value of either. It is true that the Herbartian view is more helpful as a guide to method in teaching.³⁵ We can get a circle of ideas into the four corners of a syllabus. And it might be said that the central idea of this essay, the idea of the exploration, discovery and creation of the physical, social, and moral worlds respectively, obviously puts the aspect of cognition of ideas and knowledge in the foreground. Unquestionably it does. Absorbing the environment is acquiring knowledge.³⁶ But the obvious is rarely the whole. And we shall have failed in our task if we have not established the point that knowledge, the spectator's possession, must be branded with the player's mark, must be a constituent of life and action, or it remains useless and detached. We must be absorbed as well as absorb, give as well as take.

³⁴ pp. 322-355.

³⁵ Cf. Adams, *op. cit.*, p. 345.

³⁶ *Ibid.*, p. 59.

CHAPTER II

THE FACTORS OF ADJUSTMENT

§ I. We come now to another stage of our inquiry. We have to show what agencies we can bring to bear so as to further the development of the moral order in the experience of the individual, and how they act. The first of these agencies and perhaps the most important is the moral order or environment, as this is embodied, for example, in the organisation and traditions of a good school. For we must not lose sight of the fact that such an order or environment is about him in just as real a sense as the physical world. This is not inconsistent with the view that for him its reality will consist in his identification of himself with it by an act of creation. He cannot create his continuum out of nothing : much, indeed most, of the material he must find in just this existent moral order.

There are, of course, other agencies which will be considered later. The teacher will be thought of at once, but we shall give reasons for regarding him as a constituent, a vitally important one, of the moral order itself, and not as a separate agency. The physical environment is another. The attitude towards it illustrated by Wordsworth's apostrophe to Duty :

“Thou dost preserve the stars from wrong
And the most ancient heavens through thee
are fresh and strong.”

is not merely a flight of poetic fancy, but a sober fact recurrent within the experience of normal individuals. Then, to these environmental agencies we shall have to add direct instruction, and the indirect moral training which the various school activities afford. It seems well to begin with the moral order itself as an environmental world. Before considering its operation there is one preliminary matter to be cleared up. It is the question of the operation of heredity. The relevancv

of this point here should appear as we proceed. Anything like a complete survey is, of course, out of the question. It is, perhaps, the central problem of biology, and while the application, in eugenics, of such results as have been reached, to physical well-being, is one of the most vital departments of education, conceived broadly, we are directly concerned with but one aspect of it. That aspect is the vexed and long-disputed question of the transmissibility of acquired characteristics or modifications produced in the organic structure, physical or mental, of the individual during its lifetime. Our interest even in this one aspect of the problem of heredity is in a way academic. Whichever way the answer may go, it will not affect our efforts. Nevertheless, as educators we ought to know what the pronouncement of science is. We ought to know what forces aid us and what handicap us in our efforts. And from another point of view the truth is not merely of academic interest but of practical interest also. At least it will stimulate our efforts, and it may modify them.

As to the pronouncement of science we may quote Professor J. A. Thomson. He writes: "It may be said that the disputants are now agreed as to the precise point at issue, and perhaps it may also be said that neither the yeas nor the nays ring out so confidently as they did ten years ago."¹ He puts the precise point in the form of a question: "Does a structural change in a part of the body, induced by use or disuse, or by change in surroundings and nurture generally, ever influence the germ-plasm in the reproductive organs in such a specific or representative way that the offspring will thereby exhibit the same modification that the parent acquired, or even a tendency towards it?"² He answers the question cautiously but definitively. "We do not know of any clear case which would at present warrant the assertion that a somatic modification is ever transmitted from parent to offspring."² We may quote Bergson in support of this conclusion. He says: "If (as seems probable to us) a habit contracted by the individual were transmitted to its descendants only in very exceptional cases, all the Spencerian

¹ Darwinism and Human Life, p. 157.

² Ibid p. 159.

psychology would need remaking and a large part of Spencer's philosophy would fall to pieces."³ There is the same scientific caution but decided support for the scepticism, originating in Weismann, which exists with regard to the theory of the transmissibility of acquired characteristics.

So far as the individual is concerned, then—the limitation is a vitally important one, as we shall presently see—we must postulate a fresh start, save in respect of the accumulation of germinal variations.⁴ Does that justify pessimism? Let us take counsel of one of ourselves who is concerned with the business of education. Professor Adams throws his weight characteristically into the scale of sane optimism. We must be permitted a somewhat lengthy quotation : "It is hardly fair to regard the demonstration of the fallacy of the transmission of acquired characteristics (if it is demonstrated—as the educator may honestly hope it is) as a calamity for education. The fact works both for and against the educator, but on the whole the balance is in his favour. No doubt it frustrates the hope that by accumulated improvements in succeeding generations, the educator may produce an ever-improving set of human beings. The educator's work has therefore been somewhat unreasonably compared to the labour of Sisyphus. He has no sooner disposed of one set of educands than he must start afresh with another, and begin all over again. . . . But it is just here that consolation begins. Is it not a gain rather than a loss that a baby must begin at scratch? . . . Is the educator's dismay at losing the paid-up capital of his previous work any greater than his dismay at seeing the sort of material that comes to him from parents who have acquired characteristics that would, if transmitted, make the work of the educator hopeless?"⁵ This is hopeful and inspiring. But there is surer ground for encouragement. In the opening of this paragraph we suggested that the fresh start was limited to the individual. The social organism, especially as a moral order, is just the opposite of the individual organism in this that it can and does store up acquired characteristics. If we have lost transmission of them in one place—which loss as

³ Creative Evolution, p. 83.

⁴ Thomson, op. cit., p. 159.

⁵ Evolution of Educational Theory, pp. 55, 56.

Professor Adams argues may well prove to be an ultimate gain—we can find it in another place. Professor Thompson indicates it plainly. "Of particular importance," he says, "is the fact that man, in contrast to other creatures, has developed around him an external heritage, a social framework of customs and traditions, of laws and institutions, of literature and art, by which results almost equivalent to the organic transmission of certain kinds of modifications may be brought about."⁶ This is our second world and we may add our third, the world of a moral order though, as we have all along implied, they overlap. We are certainly on safe ground in this sphere of what has been named social heredity. "The function of social heredity is to pass on from generation to generation the gains that advancing civilisation brings."⁷

The point is vital for a theory of education. Our second and third worlds endure, in Bergson's phrase. Real continuity in time is of their essence. In respect of them it is literally true that "Duration is the continuous progress of the past which gnaws into the future and which swells as it advances. And as the past grows without ceasing, so also there is no limit to its preservation."⁸ Birth and death in the literal sense are categories which do not apply to these two worlds. The social and moral orders endure and their acquired characteristics are conserved, *if we so will*. They are human volitional creations and are free from the positive and negative limitations of physical heredity. "This is the creative path by which the content of will—the second or spiritual world and nature—comes into finite form."⁹ It is, of course, true that decay may exist in the social and moral orders, as it exists in the order of nature. "One good custom may corrupt the world." But because they are orders of our own creation they are within our own power to sustain and carry on in unending progress. In these two spheres we have the factor of transmission within our control.

⁶ Op. cit., pp. 173, 174.

⁷ Adams, op. cit., p. 59.

⁸ Creative Evolution, p. 5.

⁹ Bosanquet, Value and Destiny of the Individual, p. 112. What he calls the second world is our third, but it includes our second, for, as he somewhere says, the super-social includes the social.

Consider this truth in the concrete instance of a school as a social and moral order or continuum, an order in which social life and social institutions, in miniature, are to be found, and in which moral and religious ideas prevail. These alone give it real and enduring solidarity, and in this respect the school reflects what Graham Wallas has finely called *The Great Society*. The school is an organism just to the extent that it is a social order, and, as such, or in addition, the incarnation and expression of moral and religious truth. We are clear about the nature of this organism. It is true that, as Wallas says, the term implies, "not merely that the associated human beings influence each other vitally and consciously, but that their association has a conscious life of its own, apart from the many lives of the individuals who constitute it—that a community [e.g. a school] is an 'organism' or 'body' in the same sense in which a man is."¹⁰ We agree with him that "there is in fact no evidence whatever that a self-conscious society in that sense does exist."¹¹ But a school and any society which stands for certain purposes, ideals, and traditions, has objectivity, and is a reality, one of the most pervasive of all realities for its loyal members. And perhaps no better proof of its objectivity and reality can be found than the fact we are emphasising now, that it holds and transmits from day to day, from year to year, and from generation to generation those purposes, ideals, and traditions which its members contribute. That fact, whatever views we may hold as to the nature of its ultimate being, is one of paramount importance. There is no beginning all over again, no fresh start, in the case of a school, as there probably is, so far as acquired habitudes go, in the case of an individual. Its vitality and value as a social and moral order is, at any moment, the product and expression of all its past history. That is what makes our insistence on the point so important for a theory of education. There is no counterpart in the life of a school to the distinction between somatic and germinal characteristics; the somatic and the germinal are one. Every function which it performs, and every act which its members, pupils

¹⁰ *The Great Society*, p. 250.

¹¹ *Ibid.* p. 251. Cf. p. 157 above.

and staff, perform, leaves it better or worse as an association, an organisation,¹² an environment for evoking and sustaining a moral continuum in the conscious life of its members.

We may quote McDougall in support of the set-off, by transmission through the environment, against the absence of transmission through the individual of acquired characteristics. "Whereas animal species have advanced from lower to higher levels of mental life by the improvement of the innate mental constitution of the species, man, since he became man, has progressed in the main by means of the increase in volume, and improvement in quality of the sum of knowledge, belief, and custom, which constitutes the tradition of any society. And it is to the superiority of the moral and intellectual tradition of his society that the superiority of civilised man over existing savages and over his savage forefathers is chiefly, if not wholly, due."¹³ It is, of course, within the knowledge of every schoolmaster and schoolmistress of experience what a fragile, sensitive growth this is. It is extraordinary how quickly the pale clear fires of purity, truth, and honour will die down, if they are not constantly fed. Every schoolmaster and schoolmistress of experience knows this. And the only fuel is the acts done or left undone, the life lived or rejected by its members, staff and pupils. Mere contribution, service, is not good enough as a conceptual torch. We must have the ideal of trusteeship, guardianship and championship. R. L. Stevenson's delightful essay on "The Lantern-Bearers" is singularly pertinent. The moral and religious life of the school must be a torch for each boy or girl to light, feed, carry and ultimately hand on undimmed.

We may sum up this brief preliminary discussion of the question of transmission as it concerns the individual and the environment by once more laying Professor Adams under contribution and borrowing two quotations from his book.¹⁴ One is from Professor Ray Lancaster and runs: "Educability can be transmitted—it is a congenital character; but the *results* of education cannot be transmitted. . . . To

¹² Ibid, p. 251.

¹³ Social Psychology, p. 328.

¹⁴ Op. cit, p. 57.

the educable animal the less there is of specialised mechanism transmitted by heredity the better. The loss of instinct is what permits and necessitates the education of the receptive brain.”¹⁵ The second is from Professor Ritchie: “Civilisation is the sum of those contrivances [our second and third worlds] which enable human beings to advance independently of (biological) heredity.”¹⁶

We have so far been dealing with the question of transmissibility of acquired dispositions as a general question bearing directly upon the theory of education and, in particular, upon the problem immediately before us, viz., the social and moral environment as an agency conditioning the creation of the moral continuum within the experience of the individual. We wanted to know whether progress from generation to generation was possible; and the answer was negative as regards the individual, *qua* individual, but affirmative as regards the environmental world of morality which was summed up, in the quotation from Professor Ritchie, as civilisation. It follows that the individual boy or girl, of the present day, certainly does not start from scratch, as Professor Adams puts it, in comparison with the individual boy or girl of a generation ago. The volunteers of Kitchener’s armies were men, we may well suppose, with much the same congenital endowments as those who made up Wellington’s army at Waterloo; but we are certain that the moral order, the civilisation, they went forth to preserve was vastly more imperative in the purity of its call, and their response was, in consequence, more noble and spontaneous, through the cumulative moral effect of a hundred years of history. So the public-school boy starts better than his father, because the social milieu of the school will have accumulated the traditions of a generation. “Each generation owes it to itself and to its posterity to protect its culture, to enrich it, and to transmit it.”¹⁷

§2. There is, of course, a great body of instincts and dispositions which are congenital in the individual and which are vitally important for education. They are, however, the subject-matter of psychological and sociological inquiry, and

¹⁵ The Kingdom of Man, pp. 123, 124.

¹⁶ Darwinism and Politics, p. 132.

¹⁷ N. M. Butler, “The Meaning of Education,” p. 39.

any attempt to give a summary account of them would be futile. The student who is interested may be referred to James,¹⁸ the works of McDougall,¹⁹ Graham Wallas,²⁰ and a recent historical and critical investigation by Drever²¹ with educational references. The three last-named have the social rather than the individual unit in focus, and their investigations are complementary to those of earlier psychologists with an individualistic bias. McDougall brings out the importance of these human instincts. "We may say, then, that directly or indirectly the instincts are the prime movers of all human activity; by the conative or impulsive force of some instinct (or of some habit derived from an instinct), every train of thought, however cold and passionless it may seem, is borne along towards its end, and every bodily activity is initiated and sustained. The instinctive impulses determine the ends of all activities, and supply the driving power by which all mental activities are sustained. . . . Take away these instinctive dispositions with their powerful impulses, and the organism would become incapable of activity of any kind; it would lie inert and motionless like a wonderful clockwork whose mainspring had been removed, or a steam-engine whose fires had been drawn."²²

Drever, again, opens his work as follows: "Our purpose is to attempt to give a psychological account of Instinct in Man, and thereafter to study, still in the main from the psychological point of view, the relation of Instinct to Emotion, with special reference to human emotions, and the part which Instinct plays in that phase of human development to which we give the name of Education."²³ Clearly here is a fertile field of inquiry which no teacher who seeks a scientific basis for his work can afford to neglect. Not only does the pupil come to school with an outfit of congenital dispositions, some of a social character since man is such by nature; but with an outfit of social experience gained as a member of the family. Family life as the natural vestibule to school life has been sympathetically analysed by Dr.

¹⁸ Principles of Psychology, Vol. II, Chapter XXIV.

¹⁹ Social Psychology.

²⁰ Human Nature in Politics and The Great Society.

²¹ Instinct in Man.

²² Op. cit. p. 44.

²³ Instinct in Man, p. 1.

Welton.²⁴ "The primary educative working of the family is this general moulding of the whole spiritual life—its outlook, its moral standards, its sentiments, its modes of thought, its unexamined opinions and prejudices. It acts continuously through the ideas, aims, and estimates which are taken for granted in all the family intercourse; and intermittently in direct instruction, either given positively through exhortation, advice, direction or explanation, or negatively through prohibition, condemnation and punishment. It is the atmosphere in which the child lives and acts."²⁵ This brings out the way in which family life is—perhaps we had better say should be—the natural thoroughfare to the school as a moral order. Its value lies in the kind of experience it provides. Conduct is, or should be, regulated in early years by love and sympathy rather than by insight. This, however, is just one of the main reasons why school life should follow. The moral continuum needs the more bracing atmosphere of the school if it is to develop strength and coherence. It is born of the fiat of the individual as we have seen; and that is more likely to emerge under stress *inter pares* than in the shelter of the home. "Life at school is based upon the principle of resemblance; life at home on that of difference. At school a boy associates pre-eminently with his equals, at home with those who are older or younger than himself. . . . It is needful that he should enter by experience as fully as possible into the meaning of both these fundamental types of human relationship."²⁶ The school needs the family as a seed-bed, and the family needs the school as the open plantation where the boy or girl is hardened by the open air and bluster of life. "The school is, then, an extension of the home circle and a miniature of social life."²⁷

§3. We have now arrived at a point from which we can look at the way in which the school as a moral order acts upon its members so as to stimulate them to what we have called the creation of that order within their own conscious-

²⁴ What do we mean by Education? pp. 184-192.

²⁵ Ibid., p. 190.

²⁶ H. Bompas Smith, in The International Report on Moral Instruction and Training in Schools, Vol. I, p. 120. The whole article is brimful of suggestion.

²⁷ Welton, op. cit., p. 216.

life. The process is really what we mean by the formation of character; for, in the phrase of Emerson, character "is the moral order seen through the medium of an individual nature."²⁸ We want to know what the process of forming character, as thus understood, is. From our point of view it is the subjective aspect of adjustment in the evolutionary sense, as all education is, but we must analyse the idea. Obviously the clue to this analysis is given us in the cognitive, affective or aesthetic, and conative or volitional elements out of which the texture of the moral continuum is woven.

First, then, as regards the element of cognition. How does the moral environment work on the individual so that he comes to know it? Well, there is a well-established distinction between ways or stages of knowing which is expressed by the contrast between empirical and rational knowledge. Empirical knowledge means just awareness or acquaintance with a fact or a process; while rational knowledge means, in the widest sense, knowledge of either fact, or process in its relations; or, more simply, knowledge which consists in an intelligent understanding of either. The two shade off into each other and interpenetrate. No knowledge is, perhaps, entirely empirical; it always extends beyond the immediate object; there is always some fringe, some halo of relation, as James would say.²⁹ I remember a Dutch child of three pointing to the heavens and saying: "Die sterretje daar bo" (the little star up there). She passed beyond the twinkling nucleus of light to its spatial context quite naturally. It is certain that the widest conception, the most comprehensive law, which the human intellect is capable of grasping, is empirical in the sense that it has an unrevealed context or setting. The law of gravitation is empirical in this sense. It has not yet been taken up into a wider generality which will explain it. Knowledge is never, probably, purely empirical, without context; and assuredly never purely rational with a closed context: the boundary will always call for explanation so long as the universe endures. The general criticism of Kant's philosophy is that, in the critique of Pure Reason, he created an artificial gulf between sense and understanding which he never succeeded in bridging; just as in

²⁸ Quoted by Butler, *The Meaning of Education*, p. 68.

²⁹ See p. 313.

the critique of Practical Reason he left the categorical imperative of will without bonds of connection with the manifold of desire.

The distinction is of the utmost value for education. It is within everybody's experience that progress from the relatively empirical to the relatively rational is constantly going on. The transition from one to the other, or the transformation of one by the other, may be said to be the general formula of educational progress. Whenever it occurs it is an unfailing source of the purest delight. To-night the moon may be just a lamp; to-morrow night its comradeship with the earth and its filial ties with the sun may be revealed. Its scientific context breaks through the margin of consciousness and swims into the focus; and to the material light is added the intellectual illumination. A boy has toiled empirically through a series of exercises in decimal fractions and suddenly he grasps, in a measure, the rational basis of a decimal system. A member of a school board has listened a score of times to discussions about school sites or school hours and, of a sudden, dry details are transfigured by some illuminating glimpse of a principle of social hygiene. The "flower in the crannied wall" trails a theory of evolution or childhood a "cloud of glory" about it for the first time. Instances are innumerable just because the three worlds, physical, social, and moral are constantly revealing themselves to what Dr. Ward so penetratingly called the "greeting intelligence."³⁰ This is what adjustment means. It is what Kant meant by the Transcendental Unity of Apperception. It is mind overcoming the "magnificent opposition" between itself and objective fact. Perhaps it is human mind greeting universal mind as the Idealist philosophers maintain.

To come back to the school. The question is how as a moral order it can be brought into that living contact with the consciousness of the boy or girl out of which cognition of it, mere awareness of it at first, will emerge. And the answer is that if the moral order is a living reality it will inevitably bring about that contact. The pupil can no more escape it than he can escape the constraint of the physical world. Just, however, as the physical world is not a chaos but a

³⁰ Naturalism and Agnosticism, Vol. II, p. 254.

world with articulations and contours within which the individual can make himself at home and which he can grasp, as we have seen, in the progressive order of things, laws, and system; so the school, as a reflection of the moral order of the universe, must be an organised world of occupations, serious and gay, flexible routine, rules and customs, traditions and aspirations, shot through and through with moral, æsthetic, and religious purpose. There will be grey lights as well as coloured lights, as there is sunlight and shadow without. But if the moral continuum is there it will find its way through empirical cognition into the greeting consciousness of the members of the school. "A boy's moral growth depends upon his assimilation of the social influences of his environment, and . . . this assimilation is effected by his own activity."³¹

We are not concerned in this essay with details of method. They are dealt with in the text-books.³² In our opinion, indeed, there is far too much detailed prescription about method, based largely upon traditional practice, and too seldom upon insight into principle. As Mr. Graham Wallas says: "The problem . . . of the adaptation of our nature to our environment cannot be solved by merely enforcing those habits which are most convenient under existing circumstances."³³ Rigidity and fixity of method are radically opposed to the plasticity and variety of adaptation. There is perhaps no product of psychological, logical, and philosophical reflection—and the three converge here—more valuable for the theory of education than this distinction between empirical and rational knowledge. But if the educator is alive to it, prescriptions of method based on the idea of fixed boundaries between them, are a handicap rather than a help. There are two deductions from their interpenetration which we may call methodological principles, that are helpful and directive in a general way. One is that the spark of rationality, the glow on the fringe of a concrete experience, must be spontaneous. Forcing, attempts at premature

³¹ H. Bompas Smith, *op. cit.*, Vol. I, p. 113.

³² Valuable suggestions will be found in Welton and Blandford's *Moral Training through School Discipline*.

³³ The Great Society, p. 85. The whole chapter (V) on Habit is valuable as showing that too mechanical an interpretation of it may be educationally misleading.

"eliciting," are worse than useless. Dogmatising is futile, whatever the object of investigation may be, because it is the negation of that self-realisation which is the end of all education; and when self-realisation through the creation of a moral continuum is the vital business, then dogmatism, attempted imposition from without, is not even negation, it is a contradiction in terms. The second is that, save for an exceptional personality, one who, in Wordsworth's magnificent conception,

"By the vision splendid
Is on his way attended."³⁴

a mainly empirical acquaintance with the moral order, with occasional glimpses into its rational fabric, is all we can hope for. "The boy's moral standard will normally be determined by a code which represents the common ethical ideals of the school or "house" rather than the dictates of his individual conscience. This code finds its most characteristic expression in schoolboy honour, and necessarily belongs to the tribal stage of ethical development, intermediate between the instinctive morality of the child and the enlightened following of conscience appropriate to the man."³⁵ This is true, but there will be flashes of enlightenment from time to time born of the tension towards the rational and the absolute, characteristic of the very nature of man.

§4. When we turn to the affective aspect, the feeling aspect of this process by which the school as a moral order aids in generating, in normal circumstances, its counterpart in the life of the individual, we find a reflection of the contrast between empirical and rational knowledge. It might have been anticipated, because feeling is but one aspect of conscious process; and its organic relation to cognition is, perhaps, sufficient ground for an *à priori* inference that any sound distinction of stages of development which is to be found in one will be found in the other also. As a matter of fact the investigation of the affective side of mind—the instincts, emotions, and sentiments—is in its infancy. What has been done, however, goes to support that *à priori* inference. Dr. Drever, for example, places instinct, sentiment, and ideal in an ascending order of development in the life of

³⁴ Intimations of Immortality.

³⁵ H. Bompas Smith, op. cit., Vol. I, p. 109.

feeling, which corresponds closely with the stages of cognition we have distinguished as being educationally valuable. He says: "The ideal therefore represents a higher level of psychical integration than the sentiment, just as the sentiment represents a higher level than the instinct."³⁶ And instinct and sentiment together correspond to the empirical stage of cognition, while the ideal is parallel with rationality. Let us bring out the correspondence by a further quotation. "The ideal, though it is generally based upon the sentiment, is more than the sentiment, and involves activity on a yet higher plane, and a yet larger synthesis. . . . Action determined by sentiment may show all kinds of inconsistencies and incongruities, owing to two facts, the fact that it is emotionally controlled, and the fact that the ideational consciousness, at the heart of the sentiment, is not rationalized by reflection upon the meanings of the ideas involved and their relations. Action determined by an ideal is, within the limits of the ideal, consistent and harmonious."³⁶ This is just what we have tried to indicate as the difference between empirical and rational knowledge.

It will perhaps be a help if we follow this parallel between the stages or aspects of cognition and feeling into detail for a moment. Suppose it is the first day of a novice in the preparatory school. All sorts of instincts, emotiontinged, cause the stream of his experience to rise and fall in waves of feeling. His self-feeling will be positive, as McDougall would express it, whenever kindly recognition comes; and negative whenever the new order seems to offer no niche for him. The emotional self will grow first larger then smaller, will expand and contract. Reticence, perhaps a function of the primal instinct of fear, will alternate with response to a friendly glance, perhaps a function of the primal instinct of gregariousness. Curiosity will be active, if the objective bent is a dominant trait. But these throbbing psychophysical dispositions will soon rise and fall about some determinate trend of attraction or repulsion. They will begin to organise themselves. He may go to sleep homesick; but he will awake in a morning or two a member of the school. This period of the operation of instinctive dispositions will be followed by one in which they become

³⁶ Instinct in Man, p. 215.

organised, that is, are linked together about a nucleus, e.g., a dormitory, a form, or a form-master; even in a vague and occasional way about the school itself. This is the stage when the sentiment is emerging from, or perhaps we had better say, merging with, the instinctive dispositions. Here we have in feeling what exactly corresponds with empirical knowledge reaching out beyond its immediacy and particularity to some greater whole. The first chaotic gusts of instinctive emotion settle into a steady drift. There is born the sentiment of love (or hate) of the operative world or environmental order: dormitory, form, house, school in lengthening radius and increasing area. And as during later schooldays there is a constant tension in the fringe of empirical thought which is for ever carrying it outwards and beyond itself to its rational context, so the tension of sentiment for the school is for ever carrying the pupil beyond it as a social whole to the ideal, the moral order, for which it stands and which it embodies. It is felt at various times and in various ways. To some it comes when victory in the fields or honours in the lists are suddenly felt to be impersonal school laurels; to others when personality is merged in the singing of a school song or hymn. Some catch it through external agency as when the sun lights up not only the ivy on the western wing of the school but the ideals and traditions for which it stands. Boy, dormitory, form, house, school, ideal world come to be linked together in a concrete moral universal, and the linking up is the progress from instinct and sentiment to ideal, is just the tension from empirical to rational over again in the affective area. There is a swing from one to the other in the intercourse of men. This is illustrated in letters between R. L. Nettleship and Thring. The former writes: "I have got a second. As far as I am concerned it does not matter a straw. But I am very sorry for the school and you."³⁷ That is the strong sentiment for the school. The latter replies " You know very little of me yet if you think I care for your second class. . . . At all events I care mighty little for any special honour. Humble true work, with heart and eyes open, with or without honour, is sure to do what God means it to do."³⁷ That is the ideal or moral order which is more than the school.

³⁷ G. H. Parkin, Life and Letters of Edward Thring, pp. 295, 296.

§5. We thought the unity of conscious process a sufficient reason for expecting this parallelism between cognition and feeling. We should expect the same unity to give us a similar distinction in the sphere of conation. It does. Habitual action and volitional action present the same contrast and—what is not so generally recognised—the same interpenetration. Dr. Stout's analysis of what, following Thomas Brown, he calls Relative Suggestion, is pertinent at the point we have reached.³⁸ He develops the idea of the constructiveness of mind, its synthetic activity, the tension beyond the immediate and particular, in the sphere of association. It is the theory which Mr. Bradley has summed up in the generalisation "association marries only universals." Stout points out that even in action which we regard as purely automatic, such as riding a bicycle, "the bicyclist may spin along while he is all the time attending to the scenery or the talk of his companion. It is highly improbable that all the varying adaptations required for this process have been severally and separately provided for in the process of learning, and each so fixed by repetition as to be readily available at need."³⁹ The point, for us, is that even in automatic action there is a halo about the presentation guiding it which is as it were a potentiality which may at any time become an actuality in guiding new adjustments. It is another proof of Bergson's view that there is no repetition in consciousness or life. If this is true of automatic action it is even more true of habitual action such as the routine of a school calls for. The *réveillé* bell, assembly, morning prayers, the routine of lessons, the break away at dismissal, become habitual, but there is always something more than mere habit. Volition merges with, or emerges from, habitual action not in the form in which it preceded it and laid the basis for it, but in the form of recognition, an acceptance, a fiat in respect of the purpose which lies behind these institutions which embody the school as a moral order. The fiat may of course be negative in either of two cases : one when the boy is not good enough for the school, the other when the school is not good enough for the boy. But if the school is a moral order and the boy is normal every day will

³⁸ Analytic Psychology, Vol. II, Chap. VI.

³⁹ Op. cit., Vol. II, pp. 72, 73.

see the life of the boy become habitually purposive, habitually volitional; and the process of creating the moral continuum will be an active vital process. He will consciously represent and sustain the school and the school will reproduce itself in him. What Kant said of perception and conception we may apply wholly, *mutatis mutandis*, to habit and insight. Habit without insight is blind, as insight without habit is empty. "Ideas are directive of energy only when the energy is already there, and to some extent accustomed to flow into a cognate channel. In other words, the beginnings of habitudes first, then ideas taking them up and using them and so making them more effective, is the true order. And well will it be if by the time a child leaves school—especially the primary school—his moral life have made a good beginning; if he have habitudes illumined by such simple and fruitful ideas as transmute them from blind adherence to the customary into intelligent purpose."⁴⁰ Fortunately in the concrete process of mental life one is fused with the other.

We may also quote Mr. Graham Wallas in support of our contention that more than habit is needed. He says: "A habit can neither be formed without risk of failure in the process, nor permanently retained, when formed, unless it is adapted, not only to the facts of the outer world, but also to the whole of our inner nature."⁴¹ And again "The English 'public-school' system constitutes one of the most tremendous instruments of habituation that have ever existed; but at the moment when a lad of eighteen seems on the point of becoming a perfect Etonian, he has been known to turn suddenly and unaccountably into something worse or better."⁴² Then he is abnormal and has failed to absorb Eton or Eton him. Mr. Wallas' observations point, however, to the need that habitual action "must be combined with and supported by some organised body of ideas."⁴³ One of the strongest arguments against a purely primary education is that, being necessarily largely devoted to merely instrumental subjects, it is inadequate as a means of

⁴⁰ Welton and Blandford, Moral Instruction through School Discipline, p. 75.

⁴¹ The Great Society, p. 85.

⁴² Ibid, p. 84.

⁴³ Ibid, p. 81.

developing an organised body of ideas through which its mechanical routine can find outlet and meaning. "The primary-school teacher finally loses sight of the child at the very time when the child has most need of him."⁴⁴

We have not yet asked how the school acts on its members so as to bring about these cognitive, affective and conative developments; how empirical knowledge, instinctive emotional dispositions, and habitual actions, are first of all stimulated so that the process can begin, and eventually rational insight, organised sentiment, and volitional action respectively, to some degree at all events and varying with the individual, may emerge. When we do so we have an answer on which the authorities are agreed. Stout,⁴⁵ McDougall,⁴⁶ and Drever,⁴⁷ may be consulted. Wallas⁴⁸ will also be found helpful while critical as to details. There is general consensus of view that suggestion, sympathy and imitation are operative social forces which stimulate the individual on the cognitive, affective and conative sides of experience respectively, and that the reactions of thought, feeling and behaviour which they evoke put the individual on the road which must carry him some way at any rate towards the goal of a moral continuum of his own. As James said, from childhood onwards "man is essentially *the imitative animal.*"⁴⁹ These three great social forces are of the utmost importance for education and the student cannot do better than study closely their action as described in the references given below, to which we may add Mr. Keatinge's "Study of Suggestion." They are operative during every moment of school life. And the writers named will be found particularly stimulating because their point of view is not only social, but biological and evolutionary; so that education is seen as a factor in cosmic process.

§6. Let us now sum up the conclusions of this chapter. We have the pupil, the individual, and the school as a social and moral order. The question is how that moral order can

⁴⁴ Burrell in The International Report on Moral Instruction and Training in Schools, Vol. I, p. 298.

⁴⁵ Manual of Psychology, Book III, Division I, Chapters II and IV, and Book IV, Chapter IX, §5.

⁴⁶ Social Psychology, Chapters IV and XV.

⁴⁷ Instinct in Man, Chapter X.

⁴⁸ The Great Society, Part I, Chapter VIII.

⁴⁹ Principles of Psychology, Vol. II, p. 408.

develop its counterpart in the individual. It is to be noted, as a preliminary, that although the individual brings with him a congenital outfit in the form of certain instincts and emotional dispositions, he does not bring with him the accumulated effects of the habits and pursuits of his parents. Save for biological inheritance he is plastic and starts afresh. The school, on the other hand, is the depository of tradition. It is always developing as a moral order for better or worse. While it reproduces itself in its members its life is sustained by them. If now we ask how this comes about in the individual we can endeavour to answer the question in cognitive, affective, and conative terms, but we must bear in mind that, in doing so, we are but describing three aspects of a single process. We might even say we are describing the same thing, the same process, in three different ways. The creation of the moral continuum in the individual, then, in the first place implies progress from an empirical to a rational knowledge of what the school as a moral order means. It means in the Platonic figure, getting out of the twilight of the cave into the clear sunlight, but to such an extent only that twilight and sunlight are always interfused. In the second place it means that those congenital instincts and emotional dispositions, which at first turn the stream of feeling this way and that in ebb and flow and eddy, get in due course a drift in the direction of the welfare of the school, and may become finally a current set strong towards the ideals which the school embodies. And here again it is one stream originating in primitive emotional dispositions but finally taking form and colour from the ideals it sustains. In the third place it is the reinforcement and illumination of habitual action by means of moral purpose definitely willed as an end for the self. Thus each side of the process shows the same phases of development just because it is one process. That development consists in the thing known, or felt, or acted, finding a meaning and a value in something bigger, better, more universal than itself. Finally it is the development by which the self realises what is best in it and which we can indicate in three ways as its rationality, its sociality, and its ideality.

In some such way as this, then, must the action of a school as an environmental agency be conceived. How to

organise it, how to inspire it, for this high task is a question for investigation on another plane, that of method. The magnitude, the responsibility, and we may add the nobility of the task, will perhaps have in a measure emerged from the brief summary we have attempted. We often have a partial and distorted idea of a school. Sometimes it is a building, sometimes the arena of struggle. Sometimes when we get a good pass-list, a factor in self-gratification, and so on. But if, like the old philosophers, we were searching for its essence or substance, we should have to look for it in its vitality and value as a moral and religious order. We might say of it in a poor year, so far as what one so blindly calls results are concerned, "Well the old plant needs pruning and watering, perhaps, but we shall have blossoms again, because it is sound and healthy." If what we call the tone deteriorated we should lie sleepless at nights, because we should know that the very fibre and tissue of the whole was deteriorating. Let us conclude this section with another quotation from Mr. H. Bompas-Smith, "The ethical efficiency of the school is measured by the extent to which all its methods are subordinated to the pursuit of a unified ethical ideal. In my visits to many types of schools nothing impressed me more than the tone prevailing in certain schools, which was the outcome of their devotion to definite forms of ethical ideal. It is by the character of its ideal and the strength of its devotion to it that a school must finally be judged. There are schools in which it almost seems as if every member, from the headmaster down to the smallest boy, were inspired by the same spirit of loyalty to some ideal aim. There may not be much talk of moral training, but the thing itself is there. A boy on entering such a school finds himself in an atmosphere of moral earnestness, which he may resist, but from the influence of which he cannot escape."⁵⁰ The moral continuum comes to be as real as the physical continuum.

§7. The master of form, subject, or the whole school, is, of course, an element in the environment, perhaps the most important one; and it is advisable to consider by itself his relation to the boy and to the end to be striven for. It is not essentially different, in this vital business of the

⁵⁰ Article in The International Report on Moral Instruction and Training in Schools, Vol. I, p. 134.

creation of a moral continuum within the individual, from the relation which obtains, or should obtain, when exploration of the physical world or discovery of the social world is in question.

It is clear, however, that the very occupation of a position of authority, especially if affection and esteem link pupils with occupant, implies a relation favourable to the play of those social forces, suggestion, sympathy, and imitation, just referred to. We need not enter into the question whether they operate more freely between pupil and pupil than between pupil and master. Two of the general conditions of suggestibility formulated by McDougall justify the conclusion that the relation of master to pupil is favourable to it. They are "(1) deficiency of knowledge or convictions relating to the topic in regard to which the suggestion is made, and imperfect organisation of knowledge; and (2) the impressive character of the source from which the suggested proposition is communicated!"⁵¹ It is clear, too, that authority will, at any rate, not diminish the operation of sympathy and imitation. Nor need we consider the negative case of the master who neither commands the respect nor enjoys the sympathy of his boys. He is, indeed, not a master in the sense we are to consider. The fact we are concerned with is that in the normal case of the relation of master to pupils we have a fertile field for the play of the instinctive social forces named.

We are, indeed, here face to face with the clearest instance of what Professor Adams has called the bi-polarity of the relation between master and pupil.⁵² This relation has already been examined in the introductory chapter. The point is, however, of such importance in respect of moral adjustment that it is desirable to consider it in a little more detail here. There is no question that between the master as an element in the environment and the boy interaction is real and constant. With regard to the social forces we are considering it is a natural fact; that is to say it represents a general instinctive tendency arising through natural selection out of the gregarious nature and habits of man. We have to ask now, however, whether, in the business of evoking a

⁵¹ Social Psychology, p. 98.

⁵² Evolution of Educational Theory p. 18. See also pp. 28-37 above.

moral continuum, we are to let this natural process go on uncontrolled and unmodified; or whether, starting out from it, as, of course, we must, we should aim at diverting it. To follow nature is a good rule so far as it goes and there is obviously a sense in which it is universal. We cannot dam or reverse the current of natural process, although many schools and families would furnish examples of futile efforts to do so. As an unanalysed criterion, however, following nature may lead to such absurdities as Rousseau put forward. It is at least as essential to direct nature as to follow it.

Now it seems to us that in the business of education, so far as the master takes a hand in it, we ought to get away as soon as possible from this relation of direct and immediate contact or influence which Professor Adams has called bi-polarity. We want to divert the instinctive tendencies away from the master and on to the fact or truth, whatever it may be; we want suggestibility, sympathy, and imitation to find a focus in the truth not in the person. We want to get away from the magnetism of personality. The seal and impress of the master should not be found on the boy. The similitude of moral truth and power, of divinity, yes; but not the similitude of a finite being. Personality is too precious to be negatived and obliterated by imitation. In fact we must have tri-polarity and not bi-polarity. One pole should be the conscious process, the centre of evolution, of the boy; the second should be the fact, quality, truth, or act which is the focus of attention; and the third the reflective guiding activity of the master. The master should look at the focus not at the boy; the boy should look at the focus not at the master. The influence of the master should gradually become mediate not immediate, indirect not direct. The direct impact of mind on mind, inevitable at first, should be, as far as possible, avoided, and the line of approach from the third pole to the first should be through the second. The master should gradually efface himself and turn the boy's attention on the object. There is no difficulty about this transfer. The whole process of evolution, of which the product is what we call civilisation, has been brought about by the transfer, extension, and refinement of primitive instinctive tendencies. In this way, for example, the moral sentiment, is developed from instinctive emotions, such as love and sympathy. It

becomes an organised sentiment in proportion as its core is truth. As an emotion it remains attached to a person. The justification for this principle of tri-polarity is the end of education. That end is self-realisation. The influence of a master of powerful personality may, if it is not wisely exercised, prevent progress towards this end. The arresting effect of dogmatism on self-realisation is obvious, and influence is wider than dogmatism. Influence of personality, even the best and highest, may mean that the moral order remains for the boy at the stage of externality, of law, of authority. It seems likely to have that effect so long as bi-polarity is taken to be a guiding principle as to the relation between master and boy. Tri-polarity should be the aim and attractive power should gradually be transferred from the third pole to the second. This we believe to be the remedy for what Mr. Holmes has described as the Tragedy of Education. The bi-polar idea which is locked up in the terms teaching and education is highly dangerous; not only in respect of the almost exploded notions of pouring in and drawing out, but in the sense of conveying truth and moulding character. Truth can be presented, it cannot be conveyed; the teacher's part is presentation, acquisition must come from the boy's side. Character may shape itself but cannot be moulded. What Bergson says of adaptation in a biological sense is very pertinent here. He writes: "If I pour into the same glass, by turns, water and wine, the two liquids will take the same form, and the sameness in form will be due to the sameness in adaptation of content to container. Adaptation, here, really means mechanical adjustment. The reason is that the form to which the matter has adapted itself was there, ready-made, and has forced its own shape on the matter. But, in the adaptation of an organism to the circumstances it has to live in, where is the pre-existing form awaiting its matter? The circumstances are not a mould into which life is inserted and whose form life adopts: this is indeed to be fooled by a metaphor. There is no form yet, and life must create a form for itself, suited to the circumstances which are made for it. It will have to make the best of these circumstances, neutralise their inconveniences and utilise their advantages—in short, respond to outer actions by building up a machine which has no resemblance

to them. Such adapting is not *repeating*, but *replying*—an entirely different thing.⁵³ Bergson is writing of life, and with the biologists the verdict as to this account of evolution will rest; but there is no question whatever that, as applied to consciousness and the evolution of character, this description has all the fulness of truth. The business of the master is directly with the environment—be it a theorem of geometry, a truth of science, a rule of the school, a glimpse of a moral ideal, or what not—and through the environment only, that is indirectly, with the pupil. His enthusiasm must be for objective truth and value; he must face away from the boy. The boy's enthusiasm must attach itself to the same objective; he must face away from the master.

This note runs through the penetrating contribution of Mr. Bompas Smith to the report on Moral Instruction and Training in Schools, from which we have quoted. He says, writing of public schools, “of special value is the healthy and natural character of the typical master's relations with his boys. He views with aversion all attempts at conscious moral influence and aims at getting his boys to do right acts, not at directly improving their moral character.”⁵⁴ This is exactly the tri-polarity we are urging. It is probable that if this view were more prevalent—Mr. Smith seems to be too optimistic in calling it typical—many conscientious men would have less hesitation about joining the ranks of schoolmasters. The idea of teaching and education as the impression of knowledge and character on the boy is as repugnant to thoughtful men as it is unsound in principle; but it is very prevalent in both theory and practice. The value of Bergson's teaching lies in the place he has found for liberty and creation in the conception of evolution, a value which is assured in its educational application whatever the judgment of posterity may be on its metaphysical validity.

It will be said, however, that, in one respect at least, bipolarity, as a factor in the evolution of a moral continuum out of the elements of the conscious experience of the boy, must at all costs be retained. The character and life of the master must be an embodiment and a living example of the

⁵³ Creative Evolution, p. 61.

⁵⁴ Vol. I, p. 117.

moral order impinging with direct and constant formative influence on the character of the boy. Here again prevalent educational theory seems to be somewhat loose and superficial. It is the doctrine of direct contact again, in a more subtle form and one likely to command ready acceptance. Nevertheless it seems to be fallacious because analysis is not pushed far enough. It is not the master but the moral order which he tries to live up to which should gradually emerge in the consciousness of the boy. The less there is of the human representative and exponent and the more there is of what he represents and by his life, rather than his teaching, expounds, the more likelihood there is of the boy catching the spirit of it and of its becoming pervasive of his conduct. The distinction is a vital one because identity of moral principle exists, and can only exist, in the midst of diversity of application. It is the concrete universal, this time as a moral order, over again. No two cogs in a machine perform the same function; no two individuals reveal and sustain the moral order in the same way. Each must create it for and in himself and so work out his own salvation. And the too direct impact of a personality, even the best and highest, may arrest moral progress; for one reason because it may represent the moral order on a plane out of reach. A first-class cricketer or golfer is not the best coach for a neophyte; Joachim represented virtuosity but may have caused the ambition of the budding violinist to ebb rather than to flow.

Of course nobility of character is an asset, the greatest asset, in a master, but its effect will be greater and more lasting if the boy feels it is not turned broadside on him, so to say. In the master a measure of detachment from the boy and attachment to, or better tension towards, the game of life itself, is a better guarantee of the boy's real progress than the personal nexus. The moral continuum must be continually created and the boy will gain courage for the task if he feels that the master and he are plodding side by side on the same road. There is a world of sound instinct locked up in the revulsion against any symptom of priggishness in a boy, or, we may add, in a master. Isn't the dislike of many men for the profession of teaching due mainly to that spectre of example which haunts narrow educational theory? Boys don't want an artificial model, they want a man; and his

influence will not be less healthy if they know that he, like themselves, can only win his way onward by slow degrees and through constant endeavour.

" For more is not reserved
 To man, with soul just nerved
To act to-morrow what he learns to-day :
 Here, work enough to watch
 The Master work, and catch
 Hints of the proper craft, tricks of the tool's true play."⁵⁵

CHAPTER III

THE PROCESS OF ADJUSTMENT

§1. We have now to consider in what ways the moral order of the school operates on the individual pupil. This is the question of the embodiment by the school of ethical standards or ideals. We have to ask to what extent these moral standards and ideals which have been reached in the evolution of ethical thought can be embodied in the concrete life of a school. This part of ethical doctrine is clear and the task of weaving it into educational theory is one which, though vitally important, is fairly straightforward. We may adopt without question the three main forms of the standard which ethics has distinguished, namely law, happiness, and perfection. By the last-named is to be understood the realisation of the highest self which, as we have already seen, is at once the rational, social, and ideal self. It is the standard we have already selected as the one which moral progress is to be finally judged by, the ideal towards which real moral progress moves. That is no reason, of course, why any one else should adopt it, if he feels that law or happiness is a better guide. As a matter of fact each of the three has its place in any sound theory of education, as representing an aspect of, and especially a stage in, the moral progress which the life and organisation of a school should reflect. Their inter-relation may conveniently be considered first.

The question is whether each standard or ideal involves the other two. That we shall consider in a moment. Before doing so, there is another conjecture perhaps worth considering. May we regard law, happiness, and perfection as standing each for the relation of one of the three sides of conscious process to the moral order: law corresponding to will, happiness to feeling, and perfection to cognition? There is some ground for the conjecture. Kant singled out will as the source of the moral order and found it in a cate-

gorical imperative; Bentham found it in the affective stress of the individual towards his own happiness, though he had to face an insuperable difficulty in bridging the psychological gap between the happiness of the individual and that of the greatest number; while Green's perfectionism is directly descended from the Platonic Idea. It is not, perhaps, too much to suppose that law, happiness, and perfection are forms of the ethical ideal which have resulted from an emphatic stress on one or other of the aspects of consciousness. At least that seems to be the case as regards the first two. A measure of eclecticism in the formulation of moral educational theory is so far justified. We might say that, seeing that the creation of the moral continuum is, as we have tried to show, a matter for the co-operation of cognition, feeling, and will, there is the fullest justification for finding a place in the school for law, happiness, and perfection as standards to be observed, as ideals to be striven for. In other words, in the unity of conscious process there is room for all three.

We may now approach the question in the other way suggested above. Is each standard or ideal implied in the other two? Law, or duty as the obligation corresponding to law, does seem to be so implied. This follows from the fact that if we accept happiness or perfection as an end morally valuable, that very acceptance implies an obligation to pursue the end. The end becomes an imperative, a duty, a moral law. "The supreme moral principle, whatever it may be, lays its command upon us absolutely, and admits of no question."¹ Secondly, is happiness implied in duty and perfection? It was essential to the doctrine of Kant, of course, that it was not implied in duty. But the Kantian formalism, "duty for duty's sake," is generally rejected. And even Kant, when he sought for ends which it was a duty to seek, included the happiness of others.² And as to our own happiness "we cannot attain the end of our being without attaining happiness,"³ and to attain the end of our being is our duty; so that happiness is bound up with duty, though at the second remove. That it is bound up with

¹ Mackenzie, *Manual of Ethics*, p. 171.

² Caird, *op. cit.* Vol. II, p. 381.

³ Mackenzie, *op. cit.* p. 237.

perfection is brought out clearly by Mackenzie. "Happiness, therefore," he says, "in this sense, though not, properly speaking, the end at which we aim, is an inseparable and essential element in its attainment."⁴ Thirdly, is perfection implied in duty and happiness? Although we put the first on a different plane and find a meaning for the two last in subordination to the first, anyone who preferred to put duty first could well argue that in the fulfilment of duty one would be developing the highest self. Similarly happiness, if put first, would be defined as the satisfaction which follows activity in the highest universe, i.e., the universe of the highest self.

Ethical theory, then, does give us ground for concluding that each of its three great standards has something to offer a theory of education, because each reflects an aspect of the moral order. As a matter of fact every sane schoolmaster of experience has found a place for law, happiness, and perfection, in the practical regulation of his school and its teaching, whether he is conversant with ethical theory or not. Law obtains in the form of the organisation, rules, and routine which make up the mechanism of the school. But he looks beyond the mechanism to the life which it is meant to subserve; it is a means only and the end is "Self-knowledge, self-reverence, self-control." Moreover, he knows that he will not arrive at the end unless his mechanism leaves room for the exuberance and joy of youth. It is true that there are some schoolmasters—oftener, perhaps, form-masters or subject-masters—who are not sane. Their unconscious interpretation of the Kantian imperative is "duty for duty's sake" in the form of rigid rule and cast-iron discipline, the "will that wills nothing" beyond itself. They exist and their schools or classes are a moral desert. The haphazard Pestalozzian institution is, of course, a moral Eden by comparison; but is ineffective for want of form, i.e., organisation, rule, and routine, just as the other is ineffective, for want of content, i.e., a life which is the progressive realisation of a concrete ethical ideal. On the other hand, an ethical ideal may live in the mind of the master but not in the school—this is often the case with the graduate who has taken a training course but is inexperienced—because he has yet to learn

⁴ Ibid, p. 253.

how to put together the scaffolding or skeleton of the structure, how to construct and control the mechanism which is the necessary organ of the moral order just as the body is the necessary organ of mind. A school which is really a moral order will be pervaded by a lofty ethical purpose, imposing a firm but flexible imperative; and happiness will attend its activities.

§2. We may now briefly consider each of these aspects of the moral order separately. Although the concept of law, duty, obedience, obligation—however it may be expressed—is ultimately derivative, that is, in a logical order, is consequent on the concept of an end, the evolution of moral conduct in the individual and in the social group gives every justification for that almost universal written or unwritten law of the school: "Duty first." As the primitive individual had to obey the tribal law and custom, whether he shared the tribal conscience or not, so the boy must fall in with the life of the school, without quibble or query, before its routine and institutions can have any intelligible meaning for him. Not only is this necessary for the school but it is necessary for the boy. The school should ultimately grant him the inestimable privilege of freedom, but it will be freedom within its own traditions, its own ethos. That he will never be permitted to transcend. Loyalty and service within these limits is freedom. And in the wider world of after-school he will find the same moral order which is at once constraint for the worst and freedom for the best of him. There will always be constraint, therefore, even if it is only what he, as a member of a moral order, must impose upon himself. Hence the school must accustom him from the beginning to bounds which he must not pass. For this is eternally true of the great Kantian idea of the imperative of duty, that when it is linked on to concrete moral purpose, it remains categorical from the beginning to the end of life. "Duty first," then, is a principle which the life of every school should embody, even before the content of duty is appreciated; and "Duty last" will be the call, even more categorically imperative, when the end stands out clear and bright.

Implied in what we have just said is the principle that moral progress will be real, the moral continuum will be created in the individual, when law and authority which are

at first external become internal and self-imposed; when mere obedience is being transformed into voluntary acceptance of and adherence to rule, routine, and authority. The transformation will be slow and gradual and rarely complete. It will depend upon the emergence of rational from empirical knowledge, upon the development of sentiment from instinctive emotional disposition, and upon the inclusion of habitual within volitional action. The relation of these varieties of experience has already been indicated. All that need be added, therefore, is the obvious inference that the organisation of school life, its activities, routine, and duties, should be such as to facilitate this transformation. And the experience of the best schoolmasters proves that the best way of doing so is to associate the boys themselves to the fullest extent possible with the maintenance of the order and dignity of the school. Every boy cannot be a prefect, but every normal boy can be led to realise that, within the limits of his powers and opportunities, he is a custodian of the traditions of the school. Ways and means of doing so would be out of place in an essay such as this.

§3. Happiness is ethically derivative. At least that may be accepted as the view generally prevalent: hedonism or utilitarianism as an ultimate ethical standard has had its day.⁵ Psychologically, however, happiness is primary and fundamental. "Every rational finite being must desire to be happy."⁶ The educational inference is clear. The school must find a place for happiness, but it should be a consequence not a primary aim. It might be objected that happiness should be a primary aim in the school circle as in the family circle. The answer would be that in both circles the pursuit of happiness should be subordinate to the discharge of duties and obligations. It might be urged, again, that in the kindergarten and the playing-fields, at all events, serious purposes are subordinate to joyous activities. The answer would be that both the kindergarten and playing-fields are ancillary to the classroom, the workshop, and the laboratory, the former genetically, the latter *pari passu*.

Happiness should be the subjective consequence of the

⁵ See Mackenzie, Manual of Ethics, Book II, Chapter IV, for a searching analysis.

⁶ Caird, Critical Philosophy of Kant, Vol. II, p. 170.

fulfilment of objective duty and its stimulus should be social approval, the master being the mouthpiece of the society at first. The point is its organic association with duty done. Duty is a somewhat austere goddess and appreciation and approval are essential if devotion is to be steady and sincere. Rewards and their negative, punishments, are more dangerous in proportion as they are further removed from the approval of the school. School colours, a place in a school team, or on the school honours list, the spontaneous appreciation by a form of a bit of really good work, are, one might say, ethically pure. By comparison place-taking, marks, and perhaps, detention are, one might almost say, a confession of the failure of ethical ideals. Dogmatism as to detail is foolish, of course; for a good master will transform instruments which he finds necessary while deplored their necessity. It does seem sound, however, to insist on the essential sanity of social or school approval. The need for individual rewards and punishments is not unlike the need for medicine or surgery. Hygiene is better and prior, and the approval of one's fellows is essentially hygienic.

A word on the general question of competition, involving rivalry and pugnacity, is apposite here. It is the fashion to decry it, in the form of games and examinations for example. But is the pendulum not swinging too far? The instinctive basis is pugnacity, and while the individualistic nature of the instinct calls for a measure of inhibition, there is no question that it has done much to strengthen the fibre of social units, from the family up to the nation. McDougall, examining this instinct from the point of view of its evolutionary value, is emphatic. Discussing the tribes of Borneo he says: "It might be supposed that the peaceful coastwise people would be found to be superior in moral qualities to their more warlike neighbours; but the contrary is the case. In almost all respects the advantage lies with the warlike tribes. Their houses are better built, larger, and cleaner; their domestic morality is superior, they are physically stronger, are braver, and physically and mentally more active, and in general are more trustworthy. But, above all, their social organisation is firmer and more efficient, because their respect for and obedience to their chiefs, and their loyalty to their community, are much greater; each man

identifies himself with the whole community and accepts and loyally performs the social duties laid upon him."⁷ Wallas writes in the same strain.⁸ The strength and stability of any organisation, and consequently the profit and happiness flowing from membership, must rest on the physical, intellectual, and moral vigour of its members; and the history of evolution shows that that vigour is maintained by struggle, rivalry, and competition. This is as true of a school as of any other social organism. On the fields and in the class-rooms healthy and honourable rivalry is to be encouraged in every way. Tennyson's "Ulysses" is as fine a character as can be put before a schoolboy, and there is no need to water down this element :

" Much have I seen and known . . .
And drunk delight of battle with my peers,"

for the poet supports the psychologist when he says Ulysses and his men were

" One equal temper of heroic hearts."

Uppingham owes its existence to the fighting qualities of Edward Thring, and we may be certain that as the master was, so were, and are, the boys. A school must find play for the instinct of pugnacity in field and form, if it is to be "one equal temper of heroic hearts"; and that way happiness lies.

§4. Perfectionism seems to us to be the supreme ideal which should pervade the life of a school, for it gives an elevating and inspiring content to the conception of duty and attaches happiness to what is permanent and pure. We have quoted Tennyson's concise and noble dictum, "self-reverence, self-knowledge, self-control."⁹ We must, of course, be careful to interpret self in the manner already indicated. There is a lower self to be controlled, a higher self to be revered, and the whole self to be known. And the highest is the ideal social and rational self which embodies the moral order. It is, moreover, the free self for "freedom and rationality are two names for the same thing."¹⁰

⁷ Social Psychology, p. 289.

⁸ The Great Society, pp. 169, 170.

⁹ N. M. Butler, The Meaning of Education, p. 68.

We must look at this ideal a little more closely; for although it is the ultimate life and essence of the moral order, giving duty its content and happiness its surety, it is difficult to lay hands on. Like most of the essential facts or conceptions of reality it is as evasive as it is pervasive. It shares these qualities, for example, with air, ether, consciousness, truth, time, and life itself. It is the moral ideal which is most difficult to formulate. Law can be got into categories in the form of commands, as in the ten commandments, or exhortations, as in the Sermon on the Mount. Happiness can be defined by means of the duties and virtues which it attends, and it is easy to identify, both in ourselves and in others. The ideal self is lacking in contours or marks of identification, just as is the school ideal which is the atmosphere in which the ideal self develops and thrives. This is, however, an advantage as well as a difficulty from the point of view of education. Familiarity breeds contempt as we may see in the way the best boys will break bounds. A good custom may become corrupt, as we may see in the danger of the conventionality which dogs school chapel or prayers. An ideal may be fleeting and intermittent, but its vitality may be greater than a whole world of limits and contours. Thompson's "Hound of Heaven" and Tennyson's "Voyage" are immortal embodiments of its constraining power.

In conscience we have the surety that every normal boy in some measure experiences this constraint towards an ideal self. The synthetic and integrating aspect of conscience which Muirhead examines is, perhaps, more suggestive for a theory of education than an account of its genesis. He compares and contrasts consciousness and conscience as active unifying forces. As consciousness constructs physical reality out of given data, so conscience constructs a moral order out of natural impulses. "As the principle of interpretation in the former case is the ideal which the conscious self cherishes of a unified world of experience, representing its own complete realisation as a principle of knowledge, so the principle which conscience brings to the interpretation of external circumstances is the ideal of a system of moral relations, representing its own realisation as a principle of conduct."¹⁰ This is Kant's view of the relation of Pure Reason

to Practical Reason. According to him the unity of nature is ultimately the unity of the subject. But his criticism of pure reason leaves the duality of subject and nature unresolved. It is overcome by the practical reason, i.e., by self-consciousness as will. In self-consciousness as will we have the polarisation of the system, order, or continuum of morality. Muirhead, in the passage quoted, seems to find the germ of this polarisation in conscience. We have, therefore, in conscience the germ of the rational self which is perhaps the ultimate differentia of man and which means that within every individual there exists the potentiality of a moral order. There is no stronger argument for limiting a class and a school to the number which, as Thring insisted,¹¹ makes individual care possible. This most precious thing, the germ in conscience of the rational and ideal self, should have light and air.

The ideal self suggests an individualistic point of view, but the social reference, insisted upon throughout this essay, must be re-emphasised here; and from two points of view. First the fact that the moral order is outside as well as inside him. "The system of social institutions [in our particular and immediate case, the school] among which the individual finds himself, is only the other or objective side of the organic system of impulses and desires that constitute his inward nature."¹² Secondly, the fact that in that social order the individual must realise his ideal self. It follows that the schoolmaster has also a correlative task. We noted the need for room and opportunity for individual care. We must repeat what has been said above about the need for care of the environment or tone. The schoolmaster's eye and thought can never leave it.

The progressive nature of the ideal makes it just what a school needs as a source of inspiration. On the one hand it is not too high or rather, as it would be better and truer to say, there is nothing—no act or impulse—so small as to fall outside the sphere of the ideal. Nothing is unimportant because everything thought or done means victory of the ideal rational self, or victory of the lower animal self. In other words, the ideal can be made real every hour and every

¹¹ See Parker's Life and Letters of Edward Thring, pp. 71-74.

¹² Muirhead, op. cit., p. 240.

day. Perfectionism does not present morality as an advance towards some "far-off divine event." It is a realisation of victory here and now. Perhaps the word victory suggests asceticism too strongly. That is not meant. There is plenty of room for the animal in the sphere of perfectionism, only it must keep its place. The unity of man with, on the one hand, animal and organic life below him and, on the other, an order—a moral order—above him, is a point Dr. Bosanquet constantly insists upon. "They (i.e., human beings) rest on arrangements below them; they indicate in every feature fuller forms of totality above them."¹³ Human consciousness is at once "the climax and sum and substance of evolution"¹⁴ and "an individual spiritual body, a special utterance and revelation of the universe in its highest finite form."¹⁵ Bergson says the same thing in other words: "A philosophy of intuition will be a negation of science, will be sooner or later swept away by science, if it does not resolve to see the life of the body just where it really is, on the road that leads to the life of the spirit. . . . Thus souls are continually being created, which, nevertheless, in a certain sense pre-existed. They are nothing else than the little rills into which the great river of life divides itself, flowing through the body of humanity. . . . Finally consciousness is essentially free; it is freedom itself."¹⁶ The point of these quotations for us is that, actually, and genetically, the ideal self is one with animal nature below and the infinite and divine above, and that perfection consists in maintaining an equilibrium based on the emergence of the infinite and the subsidence of the animal, to the extent that the boy's moral strength and development permit of. It is what Muirhead calls a "moving equilibrium" maintained by progress along the stepping stones of our dead selves.

Thus the ideal self can catch up and inspire the boy of ten and the youth of eighteen. Each can reach out towards the infinite he shares but which stretches beyond him, and can thus lift up and transfigure the animality he shares but which stretches away below him. While that is just what

¹³ *The Principle of Individuality and Value*, p. 221.

¹⁴ *Ibid.*, p. 158.

¹⁵ *Creative evolution*, pp. 283-285. The whole passage in which he sums up the meaning of evolution is a brilliant example of Bergson's thought and style.

gives the ideal the power to pervade the life of a school from end to end, it is also the source of the difficulty of transforming the power, the potentiality, into actuality. There is nothing static or final about it as in disciplinary rules for example. Its dynamic character is its life and the only fuel is constant and unswerving adherence. And that is true of it in both its subjective and objective forms, in the boy and in the ethos of the school. In both stagnation is death. The moral continuum, which is the moral ideal woven into the texture of life, must be constantly re-created, re-asserted, in both the individual and the school. And it is never the same process over again. In this sense there appears to be a real *progressus ad infinitum*.

The question how it is to be done recurs, and the answer again is that so far as any concrete situation is concerned the master must be left to himself, if only because every such situation is necessarily unique. What does seem futile is dogmatic argument about method. The problem to be solved is to put the boy in the way of transcending his lower self. It is not a question whether precept or practice, exhortation or environment, is best. Any way that helps the boy to transcend the limits of his lower self and live up to his membership in the school and in the infinite, is sound. We shall deal briefly with this question of instrument in a moment, but it is the question of the master rather than the instrument, so long as he is faithful to the principle of tri-polarity and does not preach, save in chapel. It is a question of a clean pure wind-swept atmosphere rather than of time-table and curriculum. It is hygiene rather than treatment. Here is what Dr. Bosanquet says : "The educator should not seek to be expert physician to every one, but none the less is he necessary as director of moral hygiene."¹⁶ And again : "It is for the most part desirable in moral influence that the stimulative should take the lead of the corrective function."¹⁶

§5. We must come down to detail : not the detail of method, but a summary review and estimate of the opportunities which a school presents of stimulating the creative evolution of the continuum wherein and whereby the thoughts and acts of the individual member become suffused

¹⁶ International Report on Moral Instruction and Teaching in Schools, Vol. I, p. 48.

and pervaded by moral quality, the quality of contributing to the realisation of the ideal self. The terms here used to define this continuum may be considered inappropriate to boyhood and youth. It may be said that obedience to law with an occasional glow of reverence for the ideal which law faintly adumbrates, is all that can reasonably be expected; that in moments of moral and religious stress the tension may carry a boy towards a better and a nobler self; but that a continuum of thoughts and acts deriving its unity from a moral beacon always burning brightly, is more than can be looked for in the evolution of character at the school stage. We have already said that the light will be intermittent and that conscious experience will only intermittently be shot through by its illumination. But it is well to aim high. And adolescence is, passively, a period of singular plasticity, while active tension is of its essence. The normal boy will gladly turn to the light; but if he fails to find it, he will assuredly explore the penumbra and may find himself in the umbra before he or any one else is aware of the eclipse.

In theory, though not in practice, there is a difficulty about the genesis of the moral continuum; that is to say, there is, if we take it to be a third order, related, indeed, to the first and second, the physical and social worlds, having no separate existence apart from them, and yet being as distinct from them as, say, life is from the organs which are its vehicle. There is no difficulty if it has no valid claim to this distinctness of being. If the question is merely the relation of the individual to the two orders out of which come, say, beauty from the play of the first, and, say, love and sympathy from the play of the second; if, that is to say, we are content to remain at the stage of history and experience, moral development is simply a chapter in individual and social psychology. If, however, a moral ideal is of another order and nature, something valuable in itself which is more than duty, though it defines duty, and more than happiness, though it ensures happiness, then its adoption by the individual is, from the point of view of theory, a difficulty. It is like the difficulty of finding teleology in mechanism. The categories which fit natural development do not seem to carry one on to the development of the ideal. Dr. Eucken seems to think they cannot. He says: "Those to whom

morality has this meaning trace back the power which makes for good living to sources in the secret places of the individual soul."¹⁷ Perhaps it is intuition in the Bergsonian sense of the term. With him, at all events, it implies freedom, and it seems to be just freedom which is wanted to carry the individual from the historical to the moral world.

As has been said, there is no practical difficulty. The normal boy is carried over sooner or later, whether we regard the third world as just an extension of the first and second, or whether we regard it as a new order and dimension. We need not dwell on the theoretical difficulty, were it not that we desire to get light from theory shed over practice. We have experience enough to guide us along the broad highway of training, although the light comes from behind and we stumble over obstacles hidden by our own shadow. There are certain empirical conclusions which, as it seems, no theory will ever disturb. There is the one that cleanliness is next to godliness, which is one aspect of the truth contained in Plato's famous pronouncement on the relation of beauty of environment to beauty of soul, which we have already quoted.¹⁸ We shall not make a mistake if we insist, first and last, that a school shall be a clean and a vigorous community. It may be that cleanliness is not necessarily the high road to purity. It may be that, in Bergsonian phrase, "between the most diverse orders of things pass, like invisible threads, the mysterious laws of analogy,"¹⁹ and yet a boy's mind may not work through the machinery of analogy. We can be content to follow experience. Town-planning, civic hygiene, is the road to which experience points as the readiest approach to a higher standard of city life. It is the same in a school. Speaking of the special moral difficulties of the boarding-school, Thring wrote: "Neglect and faulty structure breed impurity as in a hotbed. Alter the conditions, or be silent. . . . The good wall, within a certain range, is omnipotent."²⁰ The relation of physical to mental and moral training conceived and elaborated by Plato in the Republic is in the same sense.

¹⁷ International Report on Moral Instruction and Training, Vol. I, pp 3, 4.

¹⁸ See p. 302, 303.

¹⁹ Henri Bergson, An Account of his Life and Philosophy, Ruhe and Paul, p. 27.

²⁰ Parkin, Life and Letters of Edward Thring, p. 277.

§6. We have thus plenty of empirical support for the theory that a clean and vigorous physical life is the safest foundation for a moral life, though we may not succeed in satisfying ourselves why the latter should grow out of the former. We can, however, discern the dim outlines of a bridge. Continuous almost with physical vigour, to which such things as air, food, baths, games, and physical exercises are the avenues, is æsthetic alertness. That seems to touch physical sanity at one end and moral sanity, normally, at the other. Here we have Thring's "almighty wall" in another context. In the dormitory it is the guardian of virtue, in the classroom and corridor it should be the sentinel of symmetry and beauty. There is this also about æsthetic feeling. It promotes the development of the social self which, as we have seen, is the ideal self. It is of the essence of æsthetic glow that it spreads, if it can. A child plucks a flower and then brings it to you. You must share the fragrance. In the presence of beauty the tendency is to be communicative. On a high hill, in a cathedral, or in a garden, when you feel the æsthetic glow, you turn instinctively to find someone to share it. The same truth is tied up in the saying that Art is disinterested. That is what Browning felt when he wrote:—

"I want to know a butcher paints,
A baker rhymes for his pursuit,
Candlestick-maker much acquaints
His soul with song, or, haply mute,
Blows out his brains upon the flute!"²¹

This sharing of the æsthetic sentiment is perhaps the purest form of solidarity, purest, that is, in the sense of freest from selfish or material impulse. This is true, of course, of greater social units than the school. The Great Society is at its best at a concert, an organ recital, or a play; and it is nearest an organism when individual tension breaks and swells the common flood of chorus or applause.

Now it is clear that a school should make use of such an impulse to solidarity and disinterestedness, and hence, perhaps, to morality, as this. The extraordinary thing is how far it reaches. The same element is present, or better, the same glow is felt, over a range so wide that at one end you

²¹ Shop.

may have a sunset, King Lear, or the Moonlight Sonata, and at the other, a sketch of a bit of apparatus, a few lines of prose composition, or the page of an exercise book. The presence of it or the absence of it is felt in every corner of the school grounds, and it would seem that the master is solely at fault where it is lacking, for childhood and youth will contribute to beauty if encouragement is given. Beauty is ultimately order, symmetry, and rhythm, and there is nothing so small or insignificant as not to be contributory to or destructive of these qualities. In some schools, possibly in other ways alive, there is no sign of them; in others there is nothing without the sign. And beauty may not remain with itself; it may pass over into morality. Browning thought so :

“ O World, as God has made it ! all is beauty
And knowing this, is love, and love is duty.”²²

We may claim the great authority of Kant in support of the contention that, while æsthetic delight in the beautiful is not to be confused with moral fervour, the former may be a bridge to the latter. In both cases there is activity which fuses the lower self in the higher ideal self. But in æsthetic activity the effort is to maintain the satisfaction which beauty brings, while in moral activity we must do more, we must will an end, i.e., create the moral continuum. Thus the æsthetic sentiment, “ that tone of feeling which is self-maintaining and subjectively universal in its validity, is subordinated to that way of thinking which can be maintained only by painful resolve,”²³ i.e., the moral sentiment. In other words the two are not to be confused. Nevertheless the interest in the beautiful “ is *akin* to our interest in that which is morally good.”²⁴ Again, “ The Beautiful is the symbol of the morally good.”²⁵ And once more, “ Taste makes possible a transition, without any violent leap, from the allurements of sense to a habitual interest in what is morally good.”²⁵ If Kant does not go the length of Browning in finding identity between appreciation of beauty, love, and duty, he indicates so close a relation between the first and

²² The Guardian Angel.

²³ Caird, The Critical Philosophy of Kant, Vol. II, p. 429.

²⁴ Caird, op. cit, Vol. II, p. 441.

²⁵ Ibid, p. 450.

last as to justify the educational principle that symmetry, order and beauty, if embodied in the physical and spiritual environment of a school, will do much to ensure the creative evolution of the moral continuum. Thring's almighty wall has rational as well as empirical foundations.

We have grounds, then, both of experience and principle for believing that if physical and æsthetic sanity are characteristic of a school as a social organism, moral sanity is likely to develop. They contribute to bodily health and vigour and refinement of taste out of which the moral continuum may emerge. They are at once environment and activity, or adjustment and training, and on this inter-play moral progress will mainly depend. It is moulding of the individual and by the individual. It is that double-edged process which the concept of creative evolution sums up. Professor Adams says : "The educational process as a whole may be described as the absorbing and being absorbed by the environment."²⁶ Both sides of the process are essential, the active side, perhaps, more so. "Education is now coming to be regarded as the process by which the educand is helped to make himself at home in his surroundings. Education as adjustment is getting to be recognised as an important educational category. It must not, however, be interpreted to mean that the function of the educator is to help the educand merely to fit himself into his surroundings. No one ever wants to fit himself into his environment. It is the instrument—to be understood of course—but the educand is the end. Educationally, the truer aim is to enable the educand to modify his environment. The thing that best fits itself into its environment is something that has lost its power, say a rotting tree. The living tree resists, manipulates, and in certain directions thoroughly converts the environment."²⁷ That is most certainly true of moral progress which is the side of education we are considering. The moral order of the school is just what the moral order operative in the conscious life of its members makes it. The process of creative evolution goes on within the life of conscious purpose which its members live.

§7. We come now to the subjects of instruction as fac-

²⁶ Evolution of Educational Theory, p. 59.

²⁷ Ibid, p. 187.

tors in this process of evolution. Ultimately, in an ultimate analysis, there is no justification for separating subjects of instruction from other factors and agencies. A demonstration on the blackboard is on the same educational plane as a picture on the wall; activity in laboratory or classroom or workshop is not different in nature from activity in the playing-fields or in the school chapel. Creative evolution, double-edged adjustment, is a category which includes all alike. And there is some danger in their artificial separation. That *à priori* inference seems to be justified as one reads the voluminous evidence available in the Report of an International Enquiry on Moral Instruction and Training in Schools. Some witnesses express justifiable doubt about the wisdom of circumscribing moral instruction and training within certain subjects and periods. Some prefer this or that instrument or agency. Some champion direct moral instruction, others plump for incidental and more or less indirect suggestion. It seems necessary to insist on the Bergsonian conception of duration, living time, in whose steady onward march no moment is negligible for moral as for any other aspect of creative evolution. "Nowhere is the substantial reality of change so manifest as in our own interior life. Here there is indeed no fixed substratum, nor are there distinct states, defiling in procession like actors on the stage. There is only the indivisible melody of our inner life, unbroken from the beginning of our consciousness. Our personality is just this."²⁸ This has a metaphysical ring but educational theory will, if it is sound, be consonant with it. So at least it seems to us.

Is not the divergence of view and practice of the protagonists and antagonists of direct moral instruction, as it is called, due to the fact that analysis has not been carried far enough, that no real attempt at the reconciliation of prejudice on the plane of principle has been made? One is driven towards that conclusion when one reads the evidence in the report just alluded to. The opponents seem, on close examination, to have so much in common. The grounds of hesitation and fear about direct constructive effort to assist the pupil to create the moral continuum, seem to be mainly these. First, there is the sound, almost instinctive, revolt of the

²⁸ Ruhe and Paul, Henri Bergson, p. 83.

sensitive and conscientious against interference with individual autonomy. Moral freedom is sacred. It is self-realisation, a movement of volitional creation. The master feels it in his own life and shrinks from imposing heteronomy as he would resent his own unwilling subjection to it. Secondly, he will often feel that the ground is not firm enough under his own feet. He knows how often the light of the ethical ideal becomes dim; how often, indeed, it goes out in the storm and stress of circumstance. He shrinks from pointing to a path along which he himself finds it so difficult to march steadfastly. It is not that he lacks conviction, but he knows the pitfalls along the road. Thirdly, he hates cant, priggishness, apish conventionality, because he knows what the veneer can hide. Again, he himself doubts, like Professor Findlay for example,²⁹ whether the method of direct instruction may not be mischievous, because it seeks to evoke moral insight before psychological observation gives any warrant for supposing that anything but an artificial and spurious product will emerge. And he can point to what looks like the comparative failure of the effort at direct moral instruction in France.³⁰

Let us call the two first difficulties of principle, and the two last difficulties of procedure. They are mutually implicated, of course, but may be considered separately. As regards principle, is it not clear that the shrinking from stepping on sacred ground and the fear that he is not good enough to tread on it, is just the attitude which we want in a master? Does not the whole difficulty arise because bipolarity is so constantly urged or implied when the relation of master to boy is under discussion? Does not the conception of master and boy sharing humanity and all its weakness, but facing side by side the third pole, which in this case is the evasive moral ideal, and honestly trying to weave it into the texture of their life, give us just the condition we want for mutual moral progress? Dr. Bryant's whole article³¹ points fearlessly and confidently to a *via media*. She writes: "Growth—especially spiritual growth—is a secret thing. The educator should not seek either to know or to

²⁹ International Report, Vol. I, Chapter III.

³⁰ Ibid., Vol. II, Chapters I-IV.

³¹ International Report, Vol. I, Chapter VI..

regulate it altogether. Each person grows of himself towards his moral height, as the climber seeks to scale the cliff, by planting his own spiritual limbs in his own way on such holds as the rock of circumstances offers him. Even his defects may be the means by which he reaches towards the summit."³² Surely the wider experience of the master is the only justification he needs for roping himself to his pupils so that together they may hazard the ascent. It is not exhortation, bi-polarity, which is needed, but plain evidence of a life of conscious effort towards a goal which high light illuminates. That is where the value of example and personality lies. It is one of the greatest factors in the creative evolution of morality, but its effective force lies rather in reticence than in articulate precept, in avowed shortcoming rather than in overt achievement. No master need think that "the struggle nought availeth":

" If hopes were dupes, fears may be liars;
 It may be, in yon smoke concealed,
 Your comrades chase e'en now the fliers
 And, but for you, possess the field.

" For while the tired waves, vainly breaking,
 Seem here no painful inch to gain,
 Far back, through creeks and inlets making
 Comes silent, flooding in, the main "³³

The difficulty about procedure seems to arise, partly at all events, out of lack of precision in the use of terms, and this looseness may be a consequence of an attempt to apply a rigid framework of method to living content which it cannot fit. It is like the attempt to apply all the machinery and categories of mechanism to the phenomena of life and consciousness. If it is supposed that through the examination of examples, actual, historical, or imaginary, a moral truth or ideal can be abstracted, formulated, and applied, much in the same way as a theorem of mathematics, or a physical generalisation, then the opponents of direct moral instruction are unquestionably in the right in their antagonism. The establishment of that sort of objectivity as a result of what might be called a futile caricature of ethical dialectic, has nothing to do with morality or moral progress. The objec-

³² Ibid, p. 48.

³³ Clough, "Say Not the Struggle Nought Availeth."

tivity we want is the transcendence of the natural self by which it is taken up into the ideal self, making it a participant in the moral order which the social order embodies, and in so doing transforming and transfiguring it. Moral progress means a better impulse to volition, something organic in consciousness, not verbal formulation of abstract principles, out of the range of possible appreciation by the young. Even if there is some faint appreciation of such a formula as "Be kind to animals" or "Be thrifty," it is extremely doubtful whether it implies any progress in the creative evolution of a moral continuum of thought and deed. Moral progress is not like scientific progress, the accumulation of formulas of truth. It is the progressive realisation of a higher and more universal self. And direct moral instruction must be interpreted in the light of that ideal if it is to have any value. Even such a magnificent school motto as "*Strenue*"³⁴ is better regarded as a *post-hoc* dedication of its whole essence and purpose than as an ethical formula for which hourly applications are to be sought. They are likely to be artificial and spurious.

This does seem to be the theoretical objection to direct moral instruction. It is regarded as on all fours with, say, direct scientific instruction. The generalisation is taken to be a moral truth or axiom, and to be applied by exhortation. To that theoretical conception of it there is unquestionably a fundamental objection. Moral truth is not like scientific truth, an objective and detached reality which, so to say, may be taken or left by the individual without any attenuation of its reality. It only begins to exist, for the individual, when he has harnessed himself on to it, and by so doing has taken a step forward in the process of realising his higher self. If he has taken this step, exhortation is superfluous; if he has not, it is unavailing. The centre of creative evolution must be within the pupil's own personality. The lesson may seem to have failed but, on the other hand, the seed may have found a resting-place where it will germinate in its own good time. And no teacher who has felt the sympathetic grip with which pupils seize the moral elements in the struggles of Ulysses, Sir Richard Grenville, King Harry, as adumbrated

³⁴ The motto of King Edward VII School, Johannesburg.

in the immortal choruses of Henry the Fifth, the King and Sir Bedevore, in The Passing of Arthur, will be in any doubt about the germination. The characters named are good for youth, but childhood and youth interpenetrate; and it is better that imagination should be on the stretch. Our error in respect of material is, as a rule, that we offer too little. Sympathy has a long radius; its antennæ reach out far. By a sort of paradox the remote is often more real than the near. The gladiators and the Knights of the Round Table may have more of the sting of reality than Robinson Crusoe. And the real thrill of sympathy is the embryo of moral life, not an unnatural and therefore artificial generalisation. We might say almost that abstract moral truth is always artificial in a school, were it not that it is dangerous to generalise about the energy of moral tension. Dr. Bryant thinks that her post-matriculation girls have profited from ethical discussion.³⁵

In this connection there is another interesting point of theory. Most of us must have noticed the reaction which follows spiritual tension: the stampede after a service in the school chapel, the delight of the cricket-nets after a confirmation class, the relief of stretching one's limbs after the door closes on a visitor who obviously lives in a more rarified moral atmosphere than we can breathe with comfort. The same thing appears in the wonder, often tinged with admiration, which disregard for convention and even some canons of morality excites. Does it mean that the lower self is natural and the higher artificial? It does mean that the process of moral evolution in the race has to be reflected, and to some extent repeated, in the life of the individual. The higher self has its basis in nature, in the form of such instincts as love, sympathy, and the need for approval, just as certainly as the lower self. But all the facts point to the need for constant nurture and development of the higher self. The phenomena of "baulked dispositions" on which Wallas rightly lays such stress,³⁶ is what the evolution of civilisation has left lurking about the road which, as Bergson would put it,³⁷ the vital impulse in consciousness must carve out for it-

³⁵ International Report, Vol. I, pp. 55, 63-65.

³⁶ The Great Society, Chapter IV.

³⁷ Cf. Creative Evolution, pp. 57, 59 and *passim*. He uses the metaphor constantly.

self. Does not this point to the imperative need for constant supervision and constant guidance, whether we call it direct or indirect, in moral progress? Does it not also point to the caution necessary in rooting out instinctive impulses, e.g., pugnacity, from the school? McDougall emphasises the evolutionary value of anger³⁸ and says: "In the nursery and the school righteous anger will always have a great and proper part to play in the training of the individual for his life in society"³⁹—a part, we may add, appropriate to pupil as well as to master.

It is probable that few of the protagonists of direct moral instruction, at any rate few of them who are teachers of experience, ever interpret it in a rigid way. The focus to which they "direct" themselves and their pupils is the incident or example, historical or imaginary, in its concrete setting. They trust to instinct for the creation of the spark of sympathy or emulation. They let the moral "soak in as it may."⁴⁰ In this sense all moral instruction is indirect. It is like the seed in the parable of the sower. It may germinate or not, but that will depend on the fertility of instinctive and emotional reaction, and not on dry, abstract formulation of truth. That, however, is not to discredit instruction. The seed is as necessary as the fertile soil for germination. The Herbartian doctrine of the efficacy of ideas and the Socratic dictum that knowledge is virtue, contain a solid kernel of truth.

The following passage from the section in the International Report on "Ethical Sunday Schools" contains the essence of sound method and procedure. "The teaching in the Ethical Sunday Schools strives to be pre-eminently true to the great truths of pedagogy, such as concrete before abstract, from the simple to the complex, the doctrine of interest and the encouragement of self-activity, the enlargement and enriching of the "circle of thought." Accordingly the facts of the moral life are conveyed by stories, fairy tales, fables, sagas, legends, mythology, Bible and history stories and biographies, according to the ages of the children. They must be dramatically told, with due detail of scene, so as to

³⁸ Social Psychology, p. 61.

³⁹ Ibid, p. 293.

⁴⁰ International Report, Vol. I, p. 399.

let the children feel that morality lives and moves in the concrete world. . . . The instincts of hero-worship and imitation give a moral direction to his will and he feels his oneness with the moral order of the universe."⁴¹ This is not dry formalism but that weaving of moral truth into the fabric of the individual moral life which we have called the creation of the moral continuum. It is the realising that "the truth shall make you free." It is difficult to see what sound objection there can be to direct moral instruction as so interpreted, or how it can develop cant and priggishness. It should be a part of the life of every school, Sunday or week-day.

§8. It is hardly necessary to comment on the threadbare and artificial distinction between instruction and training. Every thoughtful teacher realises that they are like the convex and concave sides of a curve, two aspects of the same thing. Nor need the relation of truth to activity be emphasised after what has been said of the relation of volition and feeling to cognition in moral progress. The Boy Scout movement and the contribution of schools to social service—their contribution to national service during the war—point plainly to the way boys and girls are ready to play their part in sustaining the social, national and moral fabric.

Nor need we discuss at any length the moral import of the great formative and cultural school subjects, science and mathematics, literature and history. Through the agency of the first pair we explore our first world, the physical universe. They reveal law and system which are, as we have seen, stages in the revelation of the moral as of the physical system. They reveal the sublime in nature and Kant's association of the starry heavens and the moral law as the objects of the deepest reverence is well-known. Moreover we have it on his high authority that "when we find a man immediately interested in the beauty of *nature*, we have cause to believe that there is in him at least a basis for a good moral character."⁴² Through the agency of the second pair, the humanistic studies, our second world, the social continuum, is discovered. There we have revealed the evolution of civilisation. Within and yet transcending both the moral

⁴¹ Ibid, Vol. I, p. 396. See also the contribution of Mr. F. J. Gould (Vol. I, Chapter V) and that of Chancellor Bernard (Vol. I, Chapter VIII).

⁴² Caird, op. cit., Vol. II, pp. 441, 442.

order is adumbrated. And if teaching is sound revelation will involve participation. Each world will be, not an objective detached panorama, but a living continuum within experience. The opposition between formal and cultural training will appear as what it really is, an artificial abstraction from the concrete process in which truth, whether of science, civilisation, or morality becomes the very stuff and substance of life, of action as well of contemplation.

Of art in the "direct" form of choral music, with its ennobling and refining effect on the emotions, or of drawing and painting, it is unnecessary to point out the immediate moral implications. In the "indirect" form of neatness, order, and symmetry in all the routine of school activities, we need only say that its moral value cannot be too highly appraised. In such details the higher self can find hourly expression. Of games also we need only remark that they mean individuality *for* solidarity, or they mean little, if anything. The moral value of manual work is also generally recognised. The late William James, in reply to the question : "How could the ethical efficiency of education be increased?" said : "I should increase enormously the amount of manual or 'motor' training relatively to the book-work, and not let the latter predominate till the age of fifteen or sixteen."⁴³ The moral effect of practical work in the case of the defective and the degenerate is established beyond question. Its place in the curriculum of normal childhood and youth is also assured. Its indirect value for moral training seems to lie in the scope it gives for definite and progressive achievement. The growing power to adapt material to a specific purpose is a faithful reflection of what we have described as the creation of the moral continuum. There is no room in the workshop for the moral inertia which halts behind insight and even conviction. The translation of a plan into a reality must be attempted. James' practical advice is an immediate corollary of his splendid abstract dictum "Keep the faculty of effort alive in you by a little gratuitous exercise every day."⁴⁴ The workshop provides a field where volition must emerge in effort. In the upper school it is also a fine correc-

⁴³ International Report, Vol. I, p. 94. See also Mr. Legge's contribution in Vol. I, Chapter XXVI.

⁴⁴ Principles of Psychology, Vol. I, p. 126.

tive for flitting and fugitive higher impulses which attend the revelation of literary or scientific beauty. The higher self can find readier embodiment, a complementary bracing and binding, in the effort at practical achievement. In the school dairy, orchard, or experimental field-plot, the way can be prepared for the realisation of the ideal self in social service.

§9. As to religious instruction there is this to be said, in the first place, that it cannot be isolated in theory, and ought not to be in practice. We shall have failed altogether in our purpose if it is not now clear that adjustment must be to "the whole of reality which is God."⁴⁵ We have had to consider separately adjustment to three orders because they emerge in turn in the unity of experience and only reflect one aspect at a time of the unity "which is God." We have tried to show, however, that each aspect carries as a penumbra or halo the significance of divinity. In the first book we found that significance in the greeting of spirit by spirit implied inevitably, as we think, in adjustment to the natural order. In the second book we tried to show how the religious sentiment has been the most powerful factor in shaping the spiritual contours of the social fabric. In this book our contention has been that the creation of the moral order is the essence of adjustment, but that for that constructive task the materials are ready to hand just because the work of the Divine Architect is visible in the fabric of experience which the individual inherits. So that all adjustment is religious, and the setting aside of three-quarters of an hour for the divinity lesson must not cloak that fundamental truth. Least of all is there any room for a hierarchy of values when we reflect that adjustment is to "the whole of reality which is God."

But, in the second place, we must remember the needs of childhood and adolescence. The divine significance of nature, our fellows, and morality, is but a faintly-glimmering halo for the young. It will gain in intensity of illumination if we direct adjustment aright, but it needs the fuel of divinity in personal garb. Prayers in hall, the chapel service, the voice of exhortation, the divinity lessons, must be part of the routine of school life just because they give personal signific-

⁴⁵ Bergson, Creative Evolution, p. 371.

ance to "the reality which is God." It would be the height of presumption to dogmatise about detail. It would be the depth of folly to ignore the stress, in the young at all events, towards the human in the divine. Unless the schoolmaster feels it he should leave the school. Unless he feels that it is to God in the full panoply of human life and sympathy that adjustment is to be consummated, his vocation is not with the young.

INDEX

A

ACQUIRED characteristics, transmissibility of in individuals, 322, 323; in social fabric, 323-327.
Adams, mental tests, 26; bi-polar view of education, 28-30, 341, 342; general and specific education, 237, 238; poetry, 279; Herbartian view of priority of ideas, 320; transmissibility of acquired characteristics, 323, 324, 326, 327; individual and environment, 361.
Adamson, J. W., 126.
Adjustment, process of, 8, 9, 15, 16; to Nature, 10, 11, 46-54; to Nature and to science compared, 54-59; to social fabric, 11, 12, 219-236; to moral order, 12-14, 35-37, 300-313; diagrammatic representation of, 31, 32; illustration of, 33, 34.
Aesthetic factor in moral adjustment, 318, 359-362.
Agricultural development, 206.
Aitken, 130.
Amos, social contract, 170; basis of constitution, 171; political stability of England, 179, 180; the church and the organisation of society, 186.
Apprentices, 202, 203.
Aristotle, 173.
Arithmetic, in preparatory course, 73, 74, 83.
Armstrong, 108.
Arnold, Matthew, 4, 5.
Ashley, evolution of villein, 196; economic England in 14th century, 196; class of villein, 197; life on manor, 198; differentiation of economic function, 200; value in exchange, 201; gild system, 203, 204; woollen industry, 208; economic independence, 209.
Authority, see government.

B

BADLEY, 119.
Bagley, 261.
Bain, 272.
Baldwin, 20.
Ball, 273.
Barnett, P. A., method in geography, 80; unity of history, 227; the classics and humanistic vocations, 256; effect of literature, 277; language and literature, 279; selection of literature, 281, 282; history and literature, 287; the classics, 292, 293.
Bateson, on Bergson, 21; congenital diversity, 44; aim of education, 45; science and utility, 65; purpose of science, 112, 115, 117; method in teaching science, 113; literature and science, 119, 120; biological approach to science, 126; Greek literature, 294.
Bentham, 340.
Bergson, creative evolution, 21, 30, 46, 47, 102, 103, 104, 161, 168, 220, 228, 356, 367; mechanical and vital phenomena, 136, 137; change, 147, 148; language, 275, 276; activity of subject, 9; Kant's view of space, 52; abstractions of science, 57; past as shaping present experience, 300; transmissibility of acquired characteristics, 322, 323; duration, 324; repetition, 336; adaptation, 343, 344; reality and God, 371.
Bernard, 369.
Bosanquet, principle of individuality, 147, 148, 308-313; social self, 157, 158; law and social spirit, 172; Greek political philosophy, 173; evolution and sacrifice, 217; teleology, 306, 307; egoism and altruism, 308; germ of moral consciousness, 317;

creation of moral continuum, 319, 324; unity of animal life and moral order, 356; moral hygiene, 357.

Bradley, 21, 315, 336.

Brooke, Stopford, 3.

Browning, 3, 14, 37, 46, 244, 270, 281, 287, 311, 312, 346, 360, 361.

Bryant, 364, 365, 367.

Burke, 272.

Burrell, 338.

C

CAIRD, E., interaction of subject and object, 105; freedom and isolation, 302; freedom under moral law, 303, 314; birth of moral consciousness, 316, 317; duty and happiness, 348; happiness, 351; æsthetic and moral adjustment, 361; Nature and moral law, 369.

Cause, concept of, 143-146.

Chaucer, 287.

Chesterton, 187, 189, 200, 206.

Chisholm, 91.

Civics and Politics in Schools, 230-232. Classical languages, 292-294.

Clephan, 282.

Clough, 365.

Cognitive factor in moral adjustment, 315-318.

Commercial revolution, 209-212.

Commercial Schools, 263, 264.

Committee of Seven, History in Schools, 219, 222.

Competition, moral value of, 352, 353.

Conative factor in moral adjustment, 318, 319.

Conscience, 354, 355.

Continuum of Nature, 10, 11, 39, 40; of social fabric, 156-160; of moral order, 299-304.

Corn Laws, 225, 226.

Craftsmen, free, evolution of, 199-204.

Craft guilds, 201-204.

Crafts schools, 258-263.

Cunningham, secular and spiritual, 195; teaching of history, 196; commercial and colonial rivalry, 210; England's success in, 210, 211.

Cunningham and McArthur, the manor, 196, 197; the villeins, 197, 198; effects of black death, 199; craft guilds, 202; Edward III's economic policy, 205; food supply, 214.

D

DAUDET, A., 58, 291, 292.

Democracy, 170-173.

Descartes, 23, 139.

Dewey, science and humanities, 3; meaning of environment, 7; utility, 65, 66; science and experience, 60; verbalism in science teaching, 67; preparatory or primary course, 74; geography and history, 78; Nature and civilisation, 103; individual and social environment, 104; laboratory work, 109, 112; education as life, 222; vocational ideals, 240; education and unity of experience, 247, 248; sustaining moral order, 304.

Discipline, ideal of, 10.

E

ECONOMIC evolution and sacrifice, 216, 217.

Economic freedom and individualism, 214-216.

Education, a liberal, defined, 38.

Educational theory, independence of, 16-18, 113, 114.

Ego, see Self.

Ellwood, 155.

Emerson, 147.

Environment, threefold nature of, 2, 3; continuity with individual, 7, 41, 42; is term applicable to social fabric? 156-160; to moral order? 299-304.

Ethical standards, mutually involved, 347-349; as embodied in school life, 349, 350.

Eucken, 358.

Evidence, weighing of, as aim in history, 235, 236.

Experience, uniqueness of, 7, 8; as subject-matter of psychology, 20, 21; as unity of individual and environment, 39-41; change in, 21, 46-48.

F

FAMILY and School, 328, 329.

Findlay, 16, 364.

Food supply, 213, 214.

Formal training, 239.

Freedom, political, and diversity of race, 182, 183.

Freud, 26.

G

GALILEO, 109.

Geography, relation to Nature-study and history, 76, 77; to history, 78, 79; first steps in, 79, 80; near and far, 80, 81; maps, 81-83; comparative political, 83, 84; regional, 84-87; logic of (1) latitude, 83, 87; (2) atmospheric currents, 87, 88; (3) precipitation, 89; (4) geological features, 89, 90; economic geography, 90-92; summary, 92, 93.

George, 85.

Girls, science for, 128-130; a course in hygiene, 130-134; vocational adjustment of, 265, 266.

Gollancz and Somervell, 159, 160.

Government, basis of, 170; nature of, 170, 171; democratic form of, 170-173; sphere of, 173-174.

Gould, 369.

Green, 313, 348.

H

HALL, STANLEY, 50.

Happiness in school life, 351, 352.

Hayes, Church of Rome and organisation of society, 185, 186; religion and the Peasants' Revolt, 189; religious intolerance and emigration, 190; Jesuits as teachers, 193.

Hegel, 313.

Heine, 292.

Herbart, 50, 67-69, 319, 320.

Herbertson, 86, 90, 91.

Heuristic reform, 108-111; excessive use of method, 110-113; adjustment as a criterion of, 115, 116.

History, aim of, 223, 224.

History courses, range and selection of topics, 226-229.

Hobbes, 171.

Holmes, 343.

Horne, W. J., 261-263.

Huyghens, 109.

I

IMITATION, see Suggestion.

Individual, the, 3-8.

Individuality, uniqueness of, 42, 43; formal identity in, 43, 44; Bateson on, 44, 45.

Individuality of Nature, as focus of school science, 117-119; conception of, 147-150.

Industrial development and wool, 207, 268.

Inge, Dean, 21, 120, 293, 294.

Innes, 171.

Instincts, 327, 328.

International Report on Moral Instruction and Training in Schools, 329, 333, 338, 340, 344, 357, 359, 363, 364, 367, 368, 369, 370.

JAMES, empirical self, 6; uniqueness of experience, 7, 8; subjective activity, 20, 21; psychic fringes, 22, 58, 144, 313, 314; extensity of sensations, 52; pluralism, 160, 313; "sting of reality," 268; moral adjustment, 370.

J

Journeymen, 262, 263.

Jowett, 308.

Jung, 26.

K

KANT, forms and categories, 5, 53; synthetic function of subject, 20, 27, 50, 239, 331; perception and conception, 23, 58, 75, 337; space and time, 51, 52, 102; intellect and Nature, 146; sublime and beautiful, 280; freedom of will, 301; categorical imperative, 306, 315; individualism, 313; will as source of moral action, 319; duty and happiness, 348; pure and practical reason, 354; æsthetic and moral adjustment, 361; starry heavens and moral law, 369.

Keatinge, 338.

Keats, 31.

Kerschensteiner, 233, 234, 241, 263.

Kidd, 192, 209.

Kirchoff, 145.

L

LABORATORY and methods of, 110-113.

Lancaster, E. Ray, 258, 326, 327.

Language, continuity of with literature, 278-282; relation to each world or order, 268, 269; relation to social order, 164, 165; ahead of or behind thought, 270, 271; word and meaning, 271-273; as instrument of analysis, 274; of synthesis, 275; Bergson on, 275, 276; logical doctrine concerning, 276; and nationality, 180-183.

Latta, 126.

Law, concept of, 145-147.

Law or Duty in school life, 391.

Legge, 370.

Leibnitz, 20, 139, 313.

Literature, fusion of content and form in, 269, 270; continuity with language, 278-282; relation of to aesthetic and moral feeling, 276, 277; school course in, 282-286; relation to history, 286, 287; patriotic poetry, 287, 288; treatment of, 294-296; Board of Education circular on, 281, 287.

Locke, 46.

Lyde, 87, 88, 89, 90.

Lucas, 192, 197.

M

MACH, 145.

Mackenzie, social organism, 157; object of moral judgment, 300; content of moral order, 307; perfection, 308; categorical imperative of Kant, 315; ethical standards as imperatives, 348; happiness, 351.

Mackinder, 78, 81, 90.

Manor, life on, 196-198.

Manual training and adjustment to Nature, 72, 73

Mathematics in school course, 139-141.

Maxwell, 139.

Mazzini, 169.

McDougall, natural development of sentiments, 5, 12; sympathy, 18; voluntaristic and social psychology, 24, 25; moral adjustment, 36, 37; curiosity and wonder, 41; positive self-feeling, 104; social heredity, 326; instinct, 328; imitation, 338; conditions of suggestibility, 341; pugnacity, 352, 353; anger, 368; and Preface.

McMurtry, 64.

Meiklejohn, 59.

Mercantile Marine, 213.

Merchant Guilds, 200, 201.

Ministry of Reconstruction Report, 260, 261.

Modern Languages, 289-292.

Moral discipline of school subjects, 369-371.

Moral hygiene, 357.

Moral instruction, 362-369.

Moral order, nature of, 12-14, 299, 300; creation of, 300-304, 358-362; teleological element in, 304-307; and self-realisation, 307, 308; Bosanquet's conception of individuality, 308-313.

Muirhead, 303, 305, 307, 353.

N

NAPOLEON, 169, 171, 175, 209.

Nationality, relation to democracy, 174-176; freedom and, 176-180; strength of sentiment, 177, 178; physical features and, 178, 179; historical continuity and, 179-180; Language and, 180-183.

Natural world or order, nature of, 10, 11; unity of ego and world in experience, 39-41.

Nature-study, place in preparatory curriculum, 62, 63; principles governing selection of material, 63-71; relation to science, 71, 72; aims of, 75, 76.

Navigation Acts, 213.

Nettleship, 335.

Newbolt, 288.

Newton, 109, 117, 139, 143, 145.

Nunn, 126, and Preface.

O

O'SHEA, 56, 77.

P

PARKIN, 335, 355, 359.

Pearson, Karl, 52, 145.

Peasantry, free, evolution of, 195-199.

Perfectionism in school life, 353-357.

Physical side of school life, relation of to moral adjustment, 357.

Physiography, 93-96.
 Pilgrim Fathers, 226.
 Plato, Greek political philosophy, 173; Theory of Education, 238-239; individual and environment, 302, 303, 359; relation to modern philosophers, 313.
 Poincaré, 139.
 Preparatory Course, continuous with Secondary, 16; aim and content of, 249, 250; length and transition to Secondary Course, 251, 252.
 Presentations, currency value of, 47, 48.
 Primary Course, See Preparatory Course.
 Psychic fringes, 22-24, 313, 314, 330.
 Psychology, relation to education, 16-19; principles and developments specially valuable for education, 19-26; dynamic conception of mind, 19-22; social psychology, 24, 25; experimental, 24; child-study, 24; currency value of presentations, 47.

R

RAYLEIGH, W., 290, 296.
 Religion, strength of sentiment, 183, 184; relation to nationality and humanity, 184, 185, 188; Church of Rome and the organisation of society, 185-188; relation to economic facts, 189, 190; to emigration and national expansion, 191, 192; to education, 192-194.
 Religious instruction, 371, 372.
 Reynolds, 87.
 Rights of man, 168-169.
 Ritchie, 327.
 Rose, Holland, rights of man, 169; nationality and language, 181; political freedom and diversity of race, 182, 183; protection and war, 216.
 Ross, 24.
 Rousseau, 239.
 Ruhe, and Paul, on Bergson, 359, 363.
 Rusk, 22, 26.

S

SADLER, 62, 107, 108.
 School and ethical standards, 347-350.

School as factor in moral adjustment: (1) cognitive, 329-333; (2) affective, 333-335; (3) conative, 336-338; as medium for creation of moral continuum, 337-362.
 School-farm, 264, 265.
 Science, stage of adjustment, 97-108, 141-147; activity of subject in, 97-103, 141-147; and civilisation, 103-108; selection of subjects for a course in, 117-119; science and the humanities, 119, 120; method in teaching of, 120, 121; science syllabuses: Transvaal courses in (1) Nature-study, geography, and physical science, 122-128; (2) hygiene, 130-134; biology in schools, 134-139; for girls, 128-130.
 Science, Natural, Committee's Report, Nature-study, 61, 62, 126; real value of science, 69; physiography, 94, 95; biology in schools, 134-139; mathematics and physics, 140; science and unity of Nature, 141, 147; laboratory work and heuristic method, 110, 111; selection of topics, 120, 121, 126; aim of science, 128.
 Secondary schools, three general types, 254, 255; common subjects, 255, 256; humanistic type, 256, 257; nature type, 257, 258; crafts and commerce type, 258-264.
 Self, pure and empirical, 6.
 Shakespeare, 269, 270, 273, 281, 287, 288, 295.
 Shand, 24.
 Smith, H. Bompas, 329, 332, 333, 340, 344.
 Smith, Nowell, 286, 287.
 Social Fabric or Order, Nature of, 11, 12, 153-164; existent only in individual minds, 156, 157; is term continuum or environment applicable? 158-160; 'capitalisation' in, 160, 161; plasticity of, 162; polarisation to and constraint of individual, 162-164; language in relation to, 164, 165.
 Social heredity, 323-327.
 Social service in schools, 232-235.
 South Africa; nationality and language 180-183.
 Spencer, 208, 323.
 Stephen, L., 157.
 Stephenson, 89.
 Stevenson, 326.

Stout, subjective activity, 20, 21; psychic fringes, 22-24; extensity of sensations, 52; interest, 246; language, 271, 272, 274; relative suggestion, 336; imitation, 338.

Stubbs, the Church and the organisation of Society, 186, 187.

Suggestion, Sympathy and Imitation, working of, 338, 341.

Swinburne, 276.

Sympathy, see Suggestions.

T

TEACHER, place and function of, 26-37; in moral adjustment, 340-346.

Teleological character of moral order, 304-307.

Tennyson, 3, 46, 277, 281, 287, 295, 311, 353, 354.

Thomas, 126.

Thompson, 354.

Thomson, J. A., 322, 323, 324.

Thought and Language, 270-275.

Thrинг, 335, 333, 355, 359, 360.

Three R's, subsidiary and instrumental, 61, 62, 72-75.

Trades Schools, 258-263.

Transferability of power, theory of, 253, 254.

U

UEBERWEG, 319.

Unity of Nature, See Individuality of Nature.

Unity of three worlds, 149, 150; and unity of school subjects, 109.

VENN, 79.

Vives, 255.

Von Wyss on Nature-study, 53, 64, 66, 69, 126.

W

WALLACE, 280.

Wallas, Graham, dynamic view of mind, 24; interaction of individual and moral order, 24; social heredity, 325; habit, 332, 337; suggestion, sympathy, and imitation, 353; baulked dispositions, 367.

Ward, uniqueness of experience, 7; individualistic standpoint, 25; subjective activity, 20, 21, 50, 51; extensity of sensations, 52; withdrawal of attention, 59; reality, 94; subject and reality, 143; intelligibility of Nature, 101, 331; mental continuum, 102; capitalisation in social order, 139, 160, 161; plasticity of social order, 162; constraint of social order, 164; cause, 144; law, 146; Nature teleological, 150; words, 272; "transparent world of minds," 3, 154.

Watson, F., 255.

Webb, 90.

Weissman, 323.

Welton, 32, 329.

Welton and Blandford, 332, 337.

Withers, 227.

Wolff, 20.

Woollen industry, 207, 208.

Wordsworth, 149, 156, 281, 287, 288, 321, 333.

Work and leisure, 242.

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